



STIC Search Report

EIC 1700

STIC Database Tracking Number: 162359

TO: Jill M Gray
Location: REM 10A64
Art Unit : 1774
September 2, 2005

Case Serial Number: 10/662350

From: Les Henderson
Location: EIC 1700
REM 4B28 / 4A30
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Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



2-50079 343

Access DB#

162359

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jill GRAY Examiner #: 66983 Date: 8/9/05
Art Unit: 1774 Phone Number 302-7524 Serial Number: 10/662350
Mail Box and Bldg/Room Location: 10A 64 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Polyolefin fibers and their use in the preparation of Nonwovens
w/ high bulk & Resilience
Inventors (please provide full names): Thomsen, Susanne; Mikkelsen, Torben; Moller, Mikael
Stengaard, Flemming

Earliest Priority Filing Date: 7/19/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLS Search attached. Claus

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>27</u>	NA Sequence (#) _____	STN <u>\$ 1154.33</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic <input checked="" type="checkbox"/>	Dr.Link _____
Date Completed: <u>9/1/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>230</u>	Other _____	Other (specify) _____

AMENDMENTS TO THE CLAIMS

List of Claims:

1. (Previously Presented) A fibre comprising polyolefin polymer, said fibre having the features:
 - i) a fibre/fibre friction of no more than 600 g;
 - ii) a spin finish consisting essentially of an aqueous emulsion of polysiloxanes, with at least 25% of the active content being polysiloxanes; and
 - iii) a fibre crystallinity of at least 50%.
2. (Original) A fibre according to claim 1 wherein the fibre/fibre friction is no more than 500 g.
3. (Original) A fibre according to claim 1 wherein the fibre/fibre friction is 200 to 600 g.
4. (Original) A fibre according to claim 1, wherein the spin finish consists essentially of an aqueous emulsion of polysiloxanes of at least 30% active content.
5. (Previously Presented) A fibre according to claim 4, wherein the spin finish is applied at a concentration of 2-15% wt/wt active content.

6. (Previously Presented) A fibre according to claim 4, wherein the spin finish level is 0.2 to 1% wt/wt with respect to the fibre.

7. (Original) A fibre according to claim 1, wherein the fibre crystallinity is at least 55% as measured by DSC or XRD.

8. (Original) A fibre according to claim 1, wherein the polyolefin polymer is a nucleated polymer.

9. (Previously Presented) A fibre according to claim 1, wherein the polyolefin polymer is a nucleated polymer, wherein the nucleating agent is selected from the group consisting of talc, metallic salts of aliphatic or aromatic carboxylic acids, branched polymers containing dendritic branches and minerals selected from the group consisting of chalk, gypsum, clay kaolin, mica, and silicates and compounds that are based on D-sorbitol.²¹ 19

10. (Original) A fibre according to claim 9, wherein the nucleating agent is talc.²¹

11. (Original) A fibre according to claim 9, wherein the polyolefin polymer is a nucleated polymer, nucleated with 5000 to 10000 ppm of talc. 21

12. (Original) A fibre according to claim 1, wherein the polyolefin is selected from the group consisting of isotactic or syndiotactic polypropylene homopolymers, homo and copolymers of monoolefins such as ethylene, propylene, alphaolefins, 4-methyl-1-pentene and blends thereof, linear polyethylenes, high density polyethylene, low density polyethylene, and linear low density polyethylene and blends of the same.

13. (Original) A fibre according to claim 9, wherein the polyolefin is selected from the group consisting of homopolymer polypropylene and homopolymer polyethylene.

14. (Original) A fibre according to claim 9, wherein the polyolefin is homopolymer polypropylene.

15. (Original) A fibre according to claim 1 with a bulk of at least about 30 cm³/g.

16. (Original) A fibre according to claim 1, wherein the draw ratio is about 1:2 to 1:8.

17. (Original) A fibre according to claim 1 having an ST dtex value of 2 to 20 dtex.

18. (Previously Presented) A fibre according to claim 1 having a resilience of at least about 40%.

19. (Previously Presented) A fibre according claim 1, wherein the polyolefin has a flexural modulus of at least 1500 MPa.

Claims 20-21 (Cancelled).

22. (Previously Presented) A fibre comprising polyolefin polymer according to claim 1, wherein the polyolefin polymer is a nucleated polymer, and said fibre has

- i) a fibre/fibre friction of no more than 600 g;
- ii) a spin finish consisting essentially of an emulsion of polysiloxanes;

iii) a draw ratio of at least 1:1.5 with a final fibre fineness of 2 to 10 dtex;

iv) a fibre crystallinity of at least 50%.

23. (Previously Presented) A non-woven material prepared from a polyolefin-based staple fibre as defined in any one of claims 1-19 and 22.

24. (Previously Presented) A non-woven material comprising polyolefin-based staple fibre, wherein the non-woven material has a bulk of at least 30 cm³/g and a resilience of at least 50%.

25. (Previously Presented) A non-woven material according to claim 24, wherein the non-woven material has a resilience of at least 55%.

26. (Previously Presented) A non-woven material according to any one of claims 24 to 25, wherein the nonwoven material has bulk of at least 35%.

27. (Currently Amended) A method of preparing a polyolefin-based fibre, said method characterised in the use of a nucleated polymer, a draw ratio of at least 1:1.5

with a final fibre dtex of 2 to 10 dtex., and a spin finish consisting essentially of an emulsion of polysiloxanes, with at least 25% of the active content being polysiloxanes.

28. (Previously Presented) A method according to claim 27, wherein the polymer is selected from polyethylene and polypropylene.

29. (Original) A method according to claim 27, wherein the draw ratio is 1:2 to 1:8.

Claim 30 (Cancelled)

31. (Currently Amended) A method according to claim ~~30~~ 27, wherein the spin finish is applied at a concentration of 2-15% wt/wt active content.

32. (Currently Amended) A method according to claim ~~30~~ 27, wherein the spin finish level is 0.2 to 1% wt/wt with respect to the fibre.

33. (Previously Presented) A method of preparing a non-woven material comprising the use of a fibre as defined

in any one claims 1 to 19 and 22, or the use of a fibre prepared according to the method according to any one of claims 27 to 32, comprising the steps of

- (a) forming a fibrous bond comprising said fibres,
- and
- (b) bonding the fibrous web.

34. (Original) A method according to claim 33, wherein the fibres are oven-bonded at a temperature of 130 to 150 °C.

35. (Previously Presented) A fibre according to claim 1, wherein the fibre crystallinity of at least 50 % is achieved by:

- iv) a draw ratio of at least 1:1.5; or
- v) the polyolefin polymer being a nucleated polymer.

36. (Previously Presented) A fibre according to claim 1, wherein the spin finish is an external spin finish.

=> d his ful

(FILE 'HOME' ENTERED AT 14:27:18 ON 01 SEP 2005)

FILE 'HCAPLUS' ENTERED AT 14:27:34 ON 01 SEP 2005

E US20050079345/PN

L1 1 SEA ABB=ON PLU=ON US20050079345/PN
SEL L1 RN

FILE 'REGISTRY' ENTERED AT 14:28:07 ON 01 SEP 2005

L2 9 SEA ABB=ON PLU=ON (13397-24-5/BI OR 135861-56-2/BI OR
14807-96-6/BI OR 25085-53-4/BI OR 26063-22-9/BI OR
50-70-4/BI OR 581798-19-8/BI OR 74-85-1/BI OR 9002-88-4/B
I)

D SCAN

D L2 1-6 RN STR

D L2 8-9 RN STR

D L2 7 RN STR

L3 1 SEA ABB=ON PLU=ON 13397-24-5/RN
D SCAN

L4 1 SEA ABB=ON PLU=ON 135861-56-2/RN
D SCAN

L5 1 SEA ABB=ON PLU=ON 14807-96-6/RN
D SCAN

L6 1 SEA ABB=ON PLU=ON 25085-53-4/RN
D SCAN

L7 1 SEA ABB=ON PLU=ON 26063-22-9/RN
D SCAN

L8 1 SEA ABB=ON PLU=ON 50-70-4/RN
D SCAN

L9 1 SEA ABB=ON PLU=ON 581798-19-8/RN
D SCAN

L10 1 SEA ABB=ON PLU=ON 74-85-1/RN
D SCAN

L11 1 SEA ABB=ON PLU=ON 9002-88-4/RN
D SCAN

FILE 'HCAPLUS' ENTERED AT 14:39:11 ON 01 SEP 2005

L12 27609 SEA ABB=ON PLU=ON L3

L13 45162 SEA ABB=ON PLU=ON GYPSUM?

L14 46288 SEA ABB=ON PLU=ON L12 OR L13

L15 142 SEA ABB=ON PLU=ON L4

L16 2453 SEA ABB=ON PLU=ON L15 OR D(A)SORBITOL? OR DSORBITOL?

L17 29871 SEA ABB=ON PLU=ON SORBITOL?

L18 27459 SEA ABB=ON PLU=ON L17 NOT L16

L19 29912 SEA ABB=ON PLU=ON L16 OR L17

L20 24269 SEA ABB=ON PLU=ON L5

L21 43353 SEA ABB=ON PLU=ON L20 OR TALC?

D 20-30 KWIC
 L22 19408 SEA ABB=ON PLU=ON L6
 L23 155787 SEA ABB=ON PLU=ON POLYPROPYLENE# OR (POLY O POLYM? OR
 HOMOPOLYM?) (A) PROPYLENE#
 L24 17895 SEA ABB=ON PLU=ON ISOTACT? (2A) L23
 L25 1482 SEA ABB=ON PLU=ON SYNDIOTACT? (2A) L23
 L26 8 SEA ABB=ON PLU=ON ADSTIF?
 D SCAN
 L27 8857 SEA ABB=ON PLU=ON L23 (2A) (COPOLYM? OR CO(W) POLYM?)
 L28 47662 SEA ABB=ON PLU=ON (COPOLYM? OR CO(W) POLYM?) (2A) PROPYLEN
 E#
 L29 52761 SEA ABB=ON PLU=ON L27 OR L28
 L30 17899 SEA ABB=ON PLU=ON L24 OR L26
 L31 1277 SEA ABB=ON PLU=ON L7
 L32 1558 SEA ABB=ON PLU=ON L31 OR L25
 L33 185257 SEA ABB=ON PLU=ON (L23 OR L24 OR L25 OR L26 OR L27 OR
 L28 OR L29 OR L30 OR L31 OR L32)
 L34 18952 SEA ABB=ON PLU=ON L8
 L35 2325 SEA ABB=ON PLU=ON D(A) SORBITOL? OR DSORBITOL?
 L36 2 SEA ABB=ON PLU=ON L9
 D SCAN
 L37 13 SEA ABB=ON PLU=ON L36 OR LUROL?
 L38 88596 SEA ABB=ON PLU=ON L10
 L39 31742 SEA ABB=ON PLU=ON ETHENE#
 L40 31026 SEA ABB=ON PLU=ON ALPHA(A) OLEFIN#
 L41 5872 SEA ABB=ON PLU=ON L39 (L) L40
 L42 5748 SEA ABB=ON PLU=ON L39 (3A) L40
 L43 5872 SEA ABB=ON PLU=ON L41 OR L42
 L44 173644 SEA ABB=ON PLU=ON L11
 L45 QUE ABB=ON PLU=ON POLYMER## OR HOMOPOLYMER## OR
 COPOLYMER## OR TERPOLYMER## OR RESIN? OR GUM?
 L46 2391109 SEA ABB=ON PLU=ON POLYETHYLENE# OR L45 OR ETHYLENE# (2A)
 L45
 L47 54 SEA ABB=ON PLU=ON ((FIBER? (A) FIBER?) OR (FIBRE# (A) FIBRE
 #)) (2A) FRICTION?
 L48 3 SEA ABB=ON PLU=ON G (2A) L47
 D SCAN
 D 1-3 KWIC
 L49 3586 SEA ABB=ON PLU=ON (FIBER? (A) FIBER?) OR (FIBRE# (A) FIBRE#
)
 L50 69 SEA ABB=ON PLU=ON L49 (4A) FRICTION?
 L51 28 SEA ABB=ON PLU=ON L49 (4A) G
 D 1-10 KWIC
 L52 741965 SEA ABB=ON PLU=ON E (W) G
 L53 15 SEA ABB=ON PLU=ON L51 NOT L52
 D L53 1-15 KWIC
 L54 13 SEA ABB=ON PLU=ON L51 NOT L53
 D 1-13 KWIC

L55	601	SEA ABB=ON	PLU=ON	SPIN? (2A) FINISH?
L56	1200984	SEA ABB=ON	PLU=ON	FIBER? OR FIBR? OR FILAMENT? OR THREAD? OR STRAND? OR RIBBON? OR FILIFORM?
L57	117898	SEA ABB=ON	PLU=ON	POLYOLEFIN? OR OLEFIN? (2A) L45
L58	19871	SEA ABB=ON	PLU=ON	L56 AND L57
L59	2	SEA ABB=ON	PLU=ON	L58 AND L50 D SCAN
L60	12	SEA ABB=ON	PLU=ON	L58 AND L55 D SCAN
L61	12	SEA ABB=ON	PLU=ON	L59 OR L60
L62	1	SEA ABB=ON	PLU=ON	L58 AND L53 D SCAN
L63	12	SEA ABB=ON	PLU=ON	L61 OR L62
L64	14949	SEA ABB=ON	PLU=ON	L56 (2A) CRYST? D 1-9 KWIC
L65	2121	SEA ABB=ON	PLU=ON	L56 (2A) CRYSTALLINIT? D 5-9 KWIC
L66	54	SEA ABB=ON	PLU=ON	L65 AND L58
L67	1	SEA ABB=ON	PLU=ON	L66 AND L55 D SCAN
L68	1	SEA ABB=ON	PLU=ON	L66 AND L50
L69	1	SEA ABB=ON	PLU=ON	L66 AND L53 D QUE L66 D QUE L55
L70	191279	SEA ABB=ON	PLU=ON	(SUSPEN? OR DISPERS? OR COLLOID? OR EMULS? OR MICROEMULS? OR SLURR?) (2A) (AQUEOUS? OR WATER? OR H2O)
L71	44	SEA ABB=ON	PLU=ON	L55 AND L70
L72	155112	SEA ABB=ON	PLU=ON	?SILOXANE?
L73	3	SEA ABB=ON	PLU=ON	L72 AND L71
L74	7065	SEA ABB=ON	PLU=ON	L72 AND L70
L75	3	SEA ABB=ON	PLU=ON	L74 AND L55 D QUE
L76	0	SEA ABB=ON	PLU=ON	L75 AND (PERCENT? OR PER(W)CENT? OR PCT?)
L77	1	SEA ABB=ON	PLU=ON	L75 AND L58 D QUE D QUE L70
L78		QUE ABB=ON	PLU=ON	SUSPEN? OR DISPERS? OR COLLOID? OR EMULS? OR MICROEMULS? OR SLURR?
L79	878	SEA ABB=ON	PLU=ON	L57 AND L78 AND L72 D QUE
L80	2	SEA ABB=ON	PLU=ON	L79 AND L55
L81	1	SEA ABB=ON	PLU=ON	L79 AND L50
L82	3	SEA ABB=ON	PLU=ON	L79 AND L49
L83	1	SEA ABB=ON	PLU=ON	L79 AND L65
L84	16	SEA ABB=ON	PLU=ON	L63 OR (L67 OR L68 OR L69) OR L73 OR L75 OR L77 OR (L80 OR L81 OR L82 OR L83)

L85	18448	SEA ABB=ON	PLU=ON	ACTIV? (2A)CONTENT?
L86	1	SEA ABB=ON	PLU=ON	(ACTIV? (2A)CONTENT?) AND L84
		D SCAN		
L87	3	SEA ABB=ON	PLU=ON	(ACTIV? (2A)CONTENT?) AND L58
L88	18	SEA ABB=ON	PLU=ON	L84 OR L86 OR L87
L89	1	SEA ABB=ON	PLU=ON	(ACTIV? (2A)CONTENT?) AND L55
		D SCAN		
L90	18	SEA ABB=ON	PLU=ON	L88 OR L89
L91	122	SEA ABB=ON	PLU=ON	L58 AND NUCLEAT?
		D QUE		
L92	37	SEA ABB=ON	PLU=ON	L91 AND L21
L93	12	SEA ABB=ON	PLU=ON	L71 AND (PERCENT? OR PER(W)CENT? OR
		PCT? OR WT OR WEIGHT?)		
L94	29	SEA ABB=ON	PLU=ON	L90 OR L93
L95	53744	SEA ABB=ON	PLU=ON	DSC?
		D L95 1-20 KWIC		
L96	73835	SEA ABB=ON	PLU=ON	L95 OR DIFFER? (2A)SCAN? (2A)CALOR?
		D L96 1-10 KWIC		
L97	58793	SEA ABB=ON	PLU=ON	XRD?
		D L97 1-10 KWIC		
L98	346408	SEA ABB=ON	PLU=ON	(X(W)RAY?) (2A)DIFFRACT? OR L97 OR
		X(W)R(W)D		
L99	0	SEA ABB=ON	PLU=ON	L94 AND (L98 OR L96)
L100	581	SEA ABB=ON	PLU=ON	L65 AND (L96 OR L98)
		D 1-9 KWIC		
L101	16	SEA ABB=ON	PLU=ON	L100 AND L58
		D QUE		
L102	45	SEA ABB=ON	PLU=ON	L101 OR L94
		D QUE		
L103	2	SEA ABB=ON	PLU=ON	L102 AND L91
		D SCAN		
L104	45	SEA ABB=ON	PLU=ON	L103 OR L102
L105	7062	SEA ABB=ON	PLU=ON	NUCLEAT? (2A)AGENT?
L106	1	SEA ABB=ON	PLU=ON	L105 AND L104
		D SCAN		
L107	45	SEA ABB=ON	PLU=ON	L106 OR L104
L108	16414	SEA ABB=ON	PLU=ON	(CARBOXYL? (2A)ACID?) (4A)SALT?
L109	6131	SEA ABB=ON	PLU=ON	L108 AND METAL?
L110	330896	SEA ABB=ON	PLU=ON	DENDRIT? AND CHALK? OR KAOLIN? (2A)CLA
		Y? OR MICA# OR SILICAT? OR L19 OR L14		
L111	1005	SEA ABB=ON	PLU=ON	(L110 OR L109) AND L105
L112	1	SEA ABB=ON	PLU=ON	L111 AND L107
L113	1	SEA ABB=ON	PLU=ON	L110 AND L107
L114	769	SEA ABB=ON	PLU=ON	L58 AND L110
L115	31	SEA ABB=ON	PLU=ON	L58 AND L111
L116	75	SEA ABB=ON	PLU=ON	L107 OR L112 OR L113 OR L115
L117	43	SEA ABB=ON	PLU=ON	L116 AND (L50 OR L55 OR L65 OR L70)
L118	17	SEA ABB=ON	PLU=ON	L116 AND L21

L119 58 SEA ABB=ON PLU=ON L117 OR L118
 L120 265960 SEA ABB=ON PLU=ON PPM OR P(W)P(W)M OR PART?(2A)PER(2A)M
 ILLION?
 L121 0 SEA ABB=ON PLU=ON L119 AND L120
 L122 371683 SEA ABB=ON PLU=ON ?OLEFIN? OR L33
 D SCAN L36
 L123 49 SEA ABB=ON PLU=ON L119 AND (L122 OR (L38 OR L39 OR L40
 OR L41 OR L42 OR L43 OR L44))
 L124 1 SEA ABB=ON PLU=ON (L122 OR (L38 OR L39 OR L40 OR L41
 OR L42 OR L43 OR L44)) AND L56 AND (L50 AND L55) AND
 (L65 OR L70)
 D SCAN
 L125 2 SEA ABB=ON PLU=ON (L122 OR (L38 OR L39 OR L40 OR L41
 OR L42 OR L43 OR L44)) AND L56 AND (L50 AND L55)
 L126 13 SEA ABB=ON PLU=ON (L122 OR (L38 OR L39 OR L40 OR L41
 OR L42 OR L43 OR L44)) AND L56 AND (L50 OR L55) AND (L65
 OR L70)
 L127 56 SEA ABB=ON PLU=ON (L123 OR L124 OR L125 OR L126)
 L128 5 SEA ABB=ON PLU=ON L127 AND BULK?
 L129 56 SEA ABB=ON PLU=ON L128 OR L127
 L130 22414 SEA ABB=ON PLU=ON CM(2A)G OR CENTIMET?(A)CUBE?(2A)(GRAM
 ? OR G) OR CENTIMET?(3A)(GRAM? OR G)
 L131 0 SEA ABB=ON PLU=ON L130 AND L129
 L132 22 SEA ABB=ON PLU=ON L129 AND ((DRAW(2A)RATIO#) OR DTEX#
 OR RESILIENC? OR FLEX? OR MODUL? OR MPA OR M(W)P(W)A OR
 NON(W)WOVEN? OR NONWOVEN?)
 L133 56 SEA ABB=ON PLU=ON L129 OR L132

=> => d l133 1-56 cbib abs hitstr hitind

L133 ANSWER 1 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2005:344315 Document No. 142:393463 Impact- and heat-resistant plastic moldings used in or on the ground. Matsuoka, Katsuhiko; Fujii, Kenji (Mikuni Plastics Co., Ltd., Japan; Daicel Polymer Ltd.). Jpn. Kokai Tokkyo Koho JP 2005105059 A2 20050421, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-337786 20030929.

AB The moldings comprise (A) 100 parts recycled PET and (B) 1-30 parts polyolefins containing (90-10):(10-90) (b-1) epoxy-containing olefin copolymers and (b-2) epoxy-free olefin copolymers. Thus, a composition containing recycled PET 100, Lotader AX 8840 (ethylene-glycidyl methacrylate copolymer) 9, and Lotryl 30BA02 (ethylene-Bu acrylate copolymer) 1 part was injection-molded to give a test piece showing Charpy impact strength (ISO 179) 6.5 kJ/m², heat distortion temperature (ISO 75, under 1.8 MPa) 70°, and no sink mark.

IT 14807-96-6, Talc, uses

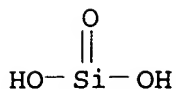
RL: MOA (Modifier or additive use); TEM (Technical or engineered

material use); USES (Uses)

(filler; impact- and heat-resistant plastic moldings used in or on ground)

RN 14807-96-6 HCAPLUS

CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08L067-02

ICS C08K003-26; C08K003-34; C08K005-098; C08K007-04; G01F001-00; G01F015-18; C08L023-02

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 60

ST plastic molding recycling PET **polyolefin** blend; ethylene glycidyl methacrylate butyl acrylate polymer blend; heat impact resistance plastic molding ground

IT Glass **fibers**, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(NEG-T 120; impact- and heat-resistant plastic moldings used in or on ground)

IT Mineral **fibers**

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(filler; impact- and heat-resistant plastic moldings used in or on ground)

IT Mica-group minerals, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fillers; impact- and heat-resistant plastic moldings used in or on ground)

IT Reinforced plastics

RL: TEM (Technical or engineered material use); USES (Uses)
(glass fiber-reinforced; impact- and heat-resistant plastic moldings used in or on ground)

IT Crystal **nucleating agents**

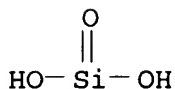
Impact-resistant materials

Recycling of plastics and rubbers

(impact- and heat-resistant plastic moldings used in or on ground)

- IT Polyesters, uses
Polyolefins
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(impact- and heat-resistant plastic moldings used in or on ground)
- IT Alkali metal salts
Alkaline earth salts
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(of organic **carboxylic acids** or **carboxyl**-containing organic polymers, crystal **nucleation agents**; impact- and heat-resistant plastic moldings used in or on ground)
- IT 822-16-2, AFCCO-Chem NA
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(crystal **nucleation agent**; impact- and heat-resistant plastic moldings used in or on ground)
- IT 471-34-1, Calcium carbonate, uses 14807-96-6, Talc, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(filler; impact- and heat-resistant plastic moldings used in or on ground)
- L133 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2005:340553 Document No. 142:393218 Regenerated PET compositions with improved moldability and heat and impact resistance, **olefin resin** compositions for modification of regenerated PET, and molded products of them. Fujii, Kenji (Daicel Polymer Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2005105055 A2 20050421, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-337745 20030929.
- AB One to 30 parts of **olefin resin** compns. comprising epoxy group-containing **olefin copolymers** and epoxy group-free **olefin copolymers** in the weight ratio of 90:10 to 10:90 are added to 100 parts regenerated PET to give the compns. Thus, recycled PET bottle flakes 100, ethylene-glycidyl methacrylate copolymer (Lotader AX 8840) 9, and ethylene-Bu acrylate copolymer (Lotryl 30BA02) 1 part were blended, kneaded, pelletized, and injection molded to give test pieces showing Charpy impact strength 6.5 kJ/m², melt flow rate 5 g/10 min, and heat distortion temperature 70°.
- IT 14807-96-6, Talc, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
- RN 14807-96-6 HCAPLUS

CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08L067-02
ICS C08K003-26; C08K003-34; C08K005-098; C08K007-04; C08L023-08

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

ST recycle PET glycidyl methacrylate ethylene polymer blend impact resistance; heat resistance regenerated PET **polyolefin** blend

IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(T 120, reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT Impact modifiers
Recycling of plastics and rubbers
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT Polyesters, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT Mica-group minerals, uses
Mineral **fibers**
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT 822-16-2, Sodium stearate
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agent**; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

- IT 9010-86-0, Ethyl acrylate-ethylene copolymer 25103-74-6,
Ethylene-methyl acrylate copolymer 25750-84-9, Lotryl
30BA02 26061-90-5, Lotader AX 8840 29564-31-6, Ethylene-propyl
acrylate copolymer 36604-80-5, Ethylene-glycidyl
methacrylate-vinyl acetate copolymer 51541-08-3,
Ethylene-glycidyl methacrylate-methyl acrylate copolymer
106677-58-1, Cevian V 680
RL: MOA (Modifier or additive use); USES (Uses)
(regenerated PET-olefin resin compns. with
improved moldability and heat and impact resistance)
- IT 25038-59-9, PET polymer, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
or engineered material use); USES (Uses)
(regenerated PET-olefin resin compns. with
improved moldability and heat and impact resistance)
- IT 471-34-1, Calcium carbonate, uses 14807-96-6, Talc
, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-olefin resin
compns. with improved moldability and heat and impact resistance)

L133 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2004:680507 Document No. 141:175420 **Polypropylene**
fibers with low residual creep strain manufactured by melt
spinning **polypropylene** with degree of crystallinity
≥60%, drawing the **fibers** and heat-treating the
fibers and manufacture thereof. Fujii, Yasuyuki (Mitsubishi
Rayon Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004232117 A2
20040819, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
2003-20439 20030129.

AB The **polypropylene** (I) **fibers** (A1) have
modulus 5-15 cN/dtex and show residual creep
strain ≤20% on keeping the **fibers** for 5 h at stress
1 cN/dtex, or I **fibers** comprise above A1
fibers showing 2-point long-period image in the meridian
direction as measured by the small angle x-ray
diffractometry (SAXS) and exhibiting long period 10-20 nm.
The I **fibers** are prepared by melt spinning I with melt flow
rate (MFR) 10-50 g/10 min and degree of crystallinity ≥60%,
drawing the **fibers**, and heat-treating the **fibers**
for 5-60 s at 125-150° under dry hot air flow. I (TA-30)
with MFR 30 g/10 min and degree of crystallinity 65% was melted at
200°, melt spun at nozzle temperature 200°, solidified in a
cooling column, wound, drawn to draw ratio 2.7
at roll temperature 100°, and heat-treated at hot air temperature
140° for 5 s at fixed length to give 800-dtex/40-
filament **fibers** showing SAXS image and exhibiting
modulus 7 cN/dtex and residual creep strain 9.8%.

IC ICM D01F006-06
 CC 40-2 (Textiles and Fibers)
 ST **polypropylene fiber** manuf creep strain redn;
 carpet **polypropylene fiber** creep strain redn
 IT Polypropene fibers, uses
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PYP (Physical process); TEM (Technical or engineered
 material use); PROC (Process); USES (Uses)
 (**polypropylene fibers** with low residual creep
 strain manufactured by melt spinning **polypropylene** with
 specified degree of **crystallinity**, drawing the
fibers and heat-treating the **fibers** and manufacture
 thereof)
 IT Carpets
 (**polypropylene fibers** with low residual creep
 strain manufactured by melt spinning **polypropylene** with
 specified degree of **crystallinity**, drawing the
fibers and heat-treating the **fibers** and manufacture
 thereof for)
 IT 25085-53-4, TA 30 (**polyolefin**)
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PYP (Physical process); TEM (Technical or engineered
 material use); PROC (Process); USES (Uses)
 (**fiber; polypropylene fibers** with
 low residual creep strain manufactured by melt spinning
polypropylene with specified degree of
crystallinity, drawing the **fibers** and
 heat-treating the **fibers** and manufacture thereof)

L133 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 2004:605461 Document No. 141:158622 Improving the hydrophobicity of
 silicon-contg. vinyl polymers. Stark, Kurt; Herzig, Christian;
 Hoegl, Christian (Wacker Polymer Systems GmbH & Co. Kg, Germany).
 Ger. Offen. DE 10301976 A1 20040729, 19 pp. (German). CODEN:
 GWXXBX. APPLICATION: DE 2003-10301976 20030120.
 AB Silicon-containing vinyl polymers with improved hydrophobicity for
 manufacture of coatings and plaster are manufactured by polymerization of
 compns.
 containing (A) 60-99.99% silicon-containing monomer and ≥ 1 monomer
 selected from vinyl esters of C1-15 aliphatic carboxylic acids, C1-15
 alkyl (meth)acrylates, aromatic vinyl compds., olefins,
 dienes, and vinyl halides and (B) 0.01-40% branched polysiloxanes
 containing lipophilic siloxane structures and, optionally, linear or
 branched hydrophilic siloxane structures. A typical (B) was manufactured
 by heating a mixture containing 1,2,4-trivinylcyclohexane 108,
 α,ω -dihydrogen polymethylsiloxane (active H
 content 0.18%) 1840, and Karstedt catalyst 1.9 g 1 h at
 80°, and heating the resulting intermediate (active

H content 0.067%) 1 h at 100° with 3200 g
monoallyl-terminated ethylene oxide-**propylene** oxide
copolymer in the presence of a hexachloroplatinic acid solution

IC ICM C08G077-442
ICS C08L083-10; C09J183-10; C09D183-10

CC 42-10 (Coatings, Inks, and Related Products)

ST silicon contg vinyl polymer hydrophobicity enhancement branched
siloxane additive; trivinylcyclohexane hydrogen polysiloxane allyl
terminated polyoxyalkylene adduct manuf; **olefin**
polymer silicon contg hydrophobicity enhancement branched
siloxane additive; diene polymer silicon contg hydrophobicity
enhancement branched siloxane additive; acrylic polymer silicon
contg hydrophobicity enhancement branched siloxane additive;
waterproof silicon contg vinyl polymer coating plaster

IT **Nonwoven fabrics**
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous
manufacture in presence of branched lipophilic silicon-containing
polymers
as emulsifiers for binders for **nonwoven** fabrics)

IT Water-resistant materials
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous
manufacture in presence of branched lipophilic silicon-containing
polymers
as emulsifiers for water-thinned plaster)

IT **Fibers**
RL: MSC (Miscellaneous)
(particulate materials; improving hydrophobicity of
silicon-containing vinyl polymers by aqueous manufacture in presence of
branched lipophilic silicon-containing polymers as emulsifiers for
binders for particulate materials)

IT Coating materials
(water-resistant; improving hydrophobicity of silicon-containing
vinyl polymers by aqueous manufacture in presence of branched lipophilic
silicon-containing polymers as **emulsifiers** for
water-thinned paints)

IT Adhesives
(water-thinned; improving hydrophobicity of silicon-containing vinyl
polymers by aqueous manufacture in presence of branched lipophilic
silicon-containing polymers as **emulsifiers** for
water-thinned adhesives)

IT Paints
(water-thinned; improving hydrophobicity of silicon-containing vinyl
polymers by aqueous manufacture in presence of branched lipophilic
silicon-containing polymers as **emulsifiers** for
water-thinned paints)

IT Plaster
(water-thinned; improving hydrophobicity of silicon-containing vinyl
polymers by aqueous manufacture in presence of branched lipophilic

silicon-containing polymers as emulsifiers for water-thinned plaster)

- IT 2855-27-8DP, 1,2,4-Trivinylcyclohexane, reaction products with hydrogen polysiloxanes and polyoxyalkylene monoallyl ether 9041-33-2DP, Ethylene oxide-propylene oxide copolymer monoallyl ether, reaction products with hydrogen-terminated methylsiloxanes and trivinylcyclohexane
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as emulsifiers)

L133 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2004:515759 Document No. 141:55706 Process for making and process for converting polyolefin fibers. Smit, Leo; Simmelink, Joseph Arnold Paul Maria; Nielaba, Leonard Josef Arnold (DSM IP Assets B.V., Neth.). PCT Int. Appl. WO 2004053212 A1 20040624, 22 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, -GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-NL872 20031209. PRIORITY: EP 2002-80143 20021210.

- AB The invention relates to a process for making a multifilament polyethylene yarn via a gel-spinning process, wherein a spin finish is applied at least once in an amount of 0.1-10% based on the filament, to a filament that contains less than 50% of solvent; the spin finish comprising at least 95% of at least one volatile compound having a b.p. at 0.1 MPa pressure of from 30 to 250°; and the spin finish is subsequently removed by exposing the filament to a temperature of below the melting temperature of the filament. With this process a yarn is made that has a very low amount of residues on the surface of the fibers, without the need for a washing or extraction step, showing good mech. properties, and very suited for e.g. biomedical applications. The invention further relates to a process for converting polyolefin fibers into a semi-finished or end-use product. The invention also concerns a polyethylene yarn and a semi-finished or end-use product obtainable by said processes, as well as to the use of thereof in biomedical

applications.

IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(fibers; process for making polyolefin
fibers with min. residual finish substance)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

H₂C=CH₂

IC ICM D01F006-04
CC 40-2 (Textiles and Fibers)
ST gel spinning volatile compd finishing
polyolefin yarn manuf; multi filament polyethylene
yarn gel spinning volatile compd finishing
IT Polyoxyalkylenes, uses
RL: REM (Removal or disposal); TEM (Technical or engineered material
use); PROC (Process); USES (Uses)
(derivs., finish, removal of; process for making
polyolefin fibers with min. residual finish
substance)
IT Polyolefin fibers
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(process for making polyolefin fibers with
min. residual finish substance)
IT Alcohols, uses
Ketones, uses
RL: NUU (Other use, unclassified); USES (Uses)
(volatile finish; process for making polyolefin
fibers with min. residual finish substance)
IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(fibers; process for making polyolefin
fibers with min. residual finish substance)
IT 25322-68-3D, Polyethylene oxide, derivs.
RL: REM (Removal or disposal); TEM (Technical or engineered material
use); PROC (Process); USES (Uses)
(finish, removal of; process for making polyolefin
fibers with min. residual finish substance)
IT 118240-87-2, Isopropanol-water mixture 153523-39-8,

1-Butanol-ethanol-water mixture

RL: NUU (Other use, unclassified); USES (Uses)
(volatile finish; process for making **polyolefin**
fibers with min. residual finish substance)

L133 ANSWER 6 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2004:488372 Document No. 142:199796 Crystallinity, orientation and mechanical property development in melt spinning poly(ethylene-co-octene) **filaments**. Shan, Haifeng; White, James L. (Institute of Polymer Engineering, University of Akron, Akron, OH, 44325, USA). Annual Technical Conference - Society of Plastics Engineers, 62nd(Vol. 2), 2067-2071 (English) 2004. CODEN: ACPED4. ISSN: 0272-5223. Publisher: Society of Plastics Engineers.

AB The structure development in melt spinning of poly(ethylene-co-octene) with different octene contents was studied. The **filaments** are characterized by WAXD, birefringence and DSC. Crystal structures of 4 copolymers are determined The Herman-Stein crystalline orientation factors are then calculated The uniaxial mech. properties are also measured.

CC 40-4 (Textiles and Fibers)

IT Birefringence

Crystal structure

Crystallinity

Elongation at break

Tensile strength

(crystallinity and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)

IT **Polyolefin fibers**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(ethylene-octene; **crystallinity** and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)

IT Polymer chains

(orientation; crystallinity and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)

IT 70800-37-2, Ethylene-octene copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(**fibers**; **crystallinity** and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)

L133 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2004:385453 Document No. 142:115811 Preliminary test of electroconductive **polyolefin fibers** modified with polyaniline. Wlochowicz, A.; Fryczkowski, R. (Institute of

Textile Engineering and Polymer Materials, University of Bielsko-Biata, Bielsko-Biala, 43-309, Pol.). *Fibres & Textiles in Eastern Europe*, 11(4), 36-38 (English) 2003. CODEN: FTEEEM. ISSN: 1230-3666. Publisher: Institute of Chemical Fibres.

- AB Initial research into methods for obtaining anti-static **fibers** is presented. We used mixts. of **polypropylene**, serving as a polymer matrix, as well as polyaniline (PANI) as a conductive polymer and alkylbenzene sulfonic acid and a protonating agent. The concentration of PANI used in our research varied from 0 to 10%, and that of alkylbenzene sulfonic acid from 0 up to 30%. **Polypropylene** was added to complete the mixture up to 100% DSC and WAXS tests were carried out, as were elec. resistance measurements by the four-conductor connection technique. The results showed that in general, the melt mixts. were **fiber-grade**, and of breaking strength partly even 60 MPa. Electrocond. values of the order of 10^{-4} S/cm allowed the **fibers** obtained to be applied in fabrics with anti-static properties.
- CC 40-2 (Textiles and Fibers)
Section cross-reference(s): 37, 76
- ST **polypropylene fiber** polyaniline alkylbenzene sulfonic acid melting spun; **fiber** elec cond **crystallinity**
- IT Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(Eltex P-HY 001P; electroconductive **polyolefin fibers** modified with polyaniline)
- IT Breaking strength
Conducting polymers
Crystallinity
Electric conductivity
Melting
Thermal stability
(electroconductive **polyolefin fibers** modified with polyaniline)
- IT Polyanilines
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(electroconductive **polyolefin fibers** modified with polyaniline)
- IT **Fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(spinning; electroconductive **polyolefin fibers** modified with polyaniline)
- IT Polymer morphology
(surface; electroconductive **polyolefin fibers**)

- modified with polyaniline)
- IT 25233-30-1, Polyaniline
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(electroconductive **polyolefin fibers** modified with polyaniline)
- IT 7440-57-5, Gold, uses
RL: DEV (Device component use); USES (Uses)
(electrode; electroconductive **polyolefin fibers** modified with polyaniline)
- IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**fiber**; electroconductive **polyolefin fibers** modified with polyaniline)
- IT 7727-54-0, Ammonium persulfate
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalyst; electroconductive **polyolefin fibers** modified with polyaniline)
- IT 98-11-3D, Benzenesulfonic acid, alkyl derivs.
RL: MOA (Modifier or additive use); USES (Uses)
(protonating agent; electroconductive **polyolefin fibers** modified with polyaniline)

L133 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2004:270153 Document No. 140:288798 **Polyolefin**

fibers and nonwoven fabrics with high bulk

and resilience preparing from the same. Thomsen, Susanne

Dahl; Mikkelsen, Torben Laigaard; Moller, Mikael; Stengaard,

Flemming Faurby (Fibervisions A/S, Den.). PCT Int. Appl. WO

2004027130 A1 20040401, 30 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO

2003-DK600 20030917. PRIORITY: DK 2002-1368 20020917.

- AB The **nonwoven materials with bulk ≥ 30 cm³/g and resilience $\geq 50\%$** is prepared from **polyolefin-based fibers ≥ 1 features** selected from (i) **fiber/fiber friction ≤ 600 g**, (ii) **spin finish** comprising an aqueous emulsion of **polysiloxane with active content $\geq 25\%$** , (iii) **draw ratio at least 1:1.5**,

and (iv) fiber crystallinity $\geq 50\%$. Thus, a nonwoven fabric obtained from fibers of Adstif HA 840R (nucleated polypropylene) treated with Silastol GF 602c (polysiloxane) in the drawing process was finished with Synthesin 7490 Fill, showing bulk 65 cm³/g and resiliency 74%.

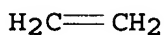
IT 74-85-1D, Ethene, polymers with α -olefins

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(LLDPE, fibers; polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

RN 74-85-1 HCAPLUS

CN Ethene (9CI) (CA INDEX NAME)

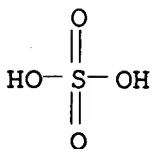


IT 13397-24-5, Gypsum, uses 14807-96-6, Talc, uses 135861-56-2, 1,3:2,4-Bis(3,4-dimethylbenzylidene)sorbitol

RL: TEM (Technical or engineered material use); USES (Uses) (crystal nucleating agents; polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

RN 13397-24-5 HCAPLUS

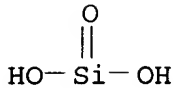
CN Gypsum (Ca(SO₄).2H₂O) (9CI) (CA INDEX NAME)



● Ca

● 2 H₂O

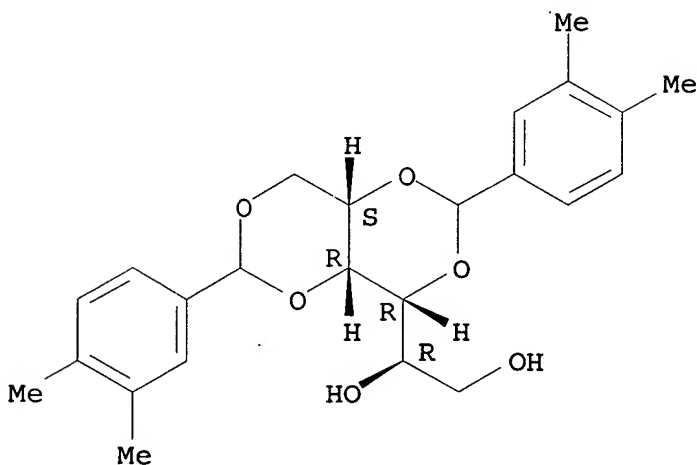
RN 14807-96-6 HCAPLUS
 CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

RN 135861-56-2 HCAPLUS
 CN D-Glucitol, 1,3:2,4-bis-O-[(3,4-dimethylphenyl)methylene] - (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.



IT 9002-88-4, Polyethylene 26063-22-9,
 Polypropylene, syndiotactic
 RL: PEP (Physical, engineering or chemical process); PYP (Physical
 process); TEM (Technical or engineered material use); PROC
 (Process); USES (Uses)
 (fibers; polyolefin fibers and
 nonwoven fabrics with high bulk and
 resilience preparing from the same).
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



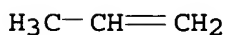
RN 26063-22-9 HCAPLUS

CN 1-Propene, homopolymer, syndiotactic (9CI) (CA INDEX NAME)

CM 1

CRN 115-07-1

CMF C3 H6



IC ICM D01F006-04

ICS D01F006-30; D01F006-46; D04H001-00; D06M015-37; D06M015-643;
C08F010-00

CC 40-10 (Textiles and Fibers)

ST **nonwoven fabric polyolefin fiber**
bulk resilience; polysiloxane
spin finish polyolefin fiber

IT **Polysiloxanes, uses**

RL: NUU (Other use, unclassified); USES (Uses)
(Silastol GF 602c, finishing agent; **polyolefin**
fibers and nonwoven fabrics with high
bulk and resilience preparing from the same)

IT **Silicone rubber, uses**

RL: NUU (Other use, unclassified); USES (Uses)
(Synthesin 7490 Fill, finishing agent; **polyolefin**
fibers and nonwoven fabrics with high
bulk and resilience preparing from the same)

IT **Fabric finishing**

(agents; **polyolefin fibers and**
nonwoven fabrics with high bulk and
resilience preparing from the same)

IT **Chalk**

Dendritic polymers

Kaolin, uses

Mica-group minerals, uses

Silicates, uses

RL: TEM (Technical or engineered material use); USES (Uses)

- (crystal nucleating agents;
polyolefin fibers and nonwoven
fabrics with high bulk and resilience preparing
from the same)
- IT Polyolefin fibers
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(ethylene copolymers; polyolefin fibers and
nonwoven fabrics with high bulk and
resilience preparing from the same)
- IT Polyolefin fibers
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(ethylene; polyolefin fibers and
nonwoven fabrics with high bulk and
resilience preparing from the same)
- IT Antistatic agents
Crystal nucleating agents
Nonwoven fabrics
(polyolefin fibers and nonwoven
fabrics with high bulk and resilience preparing
from the same)
- IT Polyolefin fibers
Polypropene fibers, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(polyolefin fibers and nonwoven
fabrics with high bulk and resilience preparing
from the same)
- IT Carboxylic acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(salts, crystal nucleating agents;
polyolefin fibers and nonwoven
fabrics with high bulk and resilience preparing
from the same)
- IT 25085-53-4, Adstif HA 840R
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(Adstif HA 840R, nucleated, fiber;
polyolefin fibers and nonwoven
fabrics with high bulk and resilience preparing
from the same)
- IT 74-85-1D, Ethene, polymers with
 α -olefins

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(LLDPE, fibers; polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

IT 50-70-4D, D-Sorbitol, derivs. 13397-24-5, Gypsum, uses 14807-96-6, Talc, uses 135861-56-2, 1,3:2,4-Bis(3,4-dimethylbenzylidene) sorbitol

RL: TEM (Technical or engineered material use); USES (Uses) (crystal nucleating agents; polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

IT 9002-88-4, Polyethylene 26063-22-9, Polypropylene, syndiotactic

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fibers; polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

IT 581798-19-8, Lurol PP 920

RL: NUU (Other use, unclassified); USES (Uses) (polyolefin fibers and nonwoven fabrics with high bulk and resilience preparing from the same)

L133 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2003:998542 Document No. 141:208456 Effects of on-line melt blending of polypropylene with polyamide 6 on the bulk and strength of the resulting BCF yarn. Tavanai, Hossein; Morshed, Mohammad; Hosseini, Seyed Majid (Textile Engineering Department, Isfahan University of Technology, Esfahan, 84156, Iran). Iranian Polymer Journal, 12(5), 421-430 (English) 2003. CODEN: IPJOFF. ISSN: 1026-1265. Publisher: Iran Polymer and Petrochemical Institute.

AB Polypropylene filament yarns, when compared with polyethyleneterephthalate and polyamide yarns have lower stretchability after being false twist textured. To overcome this deficiency, other researchers have tried to lower the degree of crystallinity of this fiber by either tension annealing or blending it with polyethyleneterephthalate and polystyrene. These phys. or chemical modifications have not yet achieved a satisfactory level of enhancement of the texture-ability of polypropylene. Considering the importance of BCF polypropylene yarns, in this research, the effect of

blending **polypropylene** with 12.5 and 25 % of polyamide 6 on the bulk of the final bulked continuous filament (BCF) yarn has been investigated. The results show that although both crimp contraction and crimp modulus increase with the temperature and pressure of hot air during texturing, but blending **polypropylene** with even 25% of polyamide 6 does not enhance the texture-ability of BCF yarns. Also, the reduction in the crystallinity of the yarns does not lead to any improvement in the texture-ability of the **polypropylene** BCF yarns.

CC 40-4 (Textiles and Fibers)

Section cross-reference(s): 36

ST **polypropylene** polyamide blend yarn property crystallinity texture ability

IT Contraction (mechanical)

Modulus (stress-strain)

(crimp; effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Yarns

(effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Polyamides, uses

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)

(effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Polymer blends

Polypropene fibers, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Crystallinity

(effects of online melt blending of **polypropylene** with polyamide 6 on property of resulting BCF yarn)

IT Fibers

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)

(spinning; effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Microstructure

(texture-ability; effects of online melt blending of **polypropylene** with polyamide 6 on bulk and strength of resulting BCF yarn)

IT Pressure

Temperature

- (variation; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)
- IT 108-31-6, Maleic anhydride, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (compatibilizer; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)
- IT 25038-54-4, Polyamide 6, uses
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
 (effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)
- IT 25085-53-4
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
 (fibers; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)
- IT 743436-27-3, Rolfil PN 80
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (spin finish; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

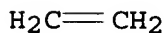
L133 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2003:801005 Document No. 140:60685 Morphology and mechanical properties of crosslinked PE/PE composite materials. Ratner, S.; Weinberg, A.; Marom, G. (Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel). Polymer Composites, 24(3), 422-427 (English) 2003. CODEN: PCOMDI. ISSN: 0272-8397. Publisher: Society of Plastics Engineers.

AB Novel peroxide-crosslinked composite materials based on ultra high mol. weight polyethylene **fibers** were studied in comparison with their non-crosslinked homologues. Two material types were prepared, either by embedding the **fibers** in a low-d. polyethylene matrix, or by compacting neat **fibers**. The resulting composites were analyzed by **differential scanning calorimetry**, focusing on the typical double-melting endotherm of the PE **fibers**, and by **X-ray diffraction**, concentrating on the characteristic weak 010 reflection of the triclinic phase in the **fiber**. Mech. testing of unidirectional composites showed crosslinking to be highly advantageous, yielding significant

property enhancement, e.g., increasing the flexural modulus from 28 to 33 GPa in the compacted fiber composite. The advantage results from the crosslinking mechanism, entailing only partial melting that is confined to the fiber skin, while retaining a significant degree of crystallinity in the fiber.

IT 9002-88-4, Polyethylene
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (low-d.; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



CC 38-3 (Plastics Fabrication and Uses)
 ST morphol UHMWPE fiber crosslinked LDPE composite
 IT Polyolefin fibers
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (ethylene, Dyneema SK-75; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)
 IT Mechanical properties
 Polymer morphology
 Young's modulus
 (morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)
 IT 9002-88-4, Polyethylene
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (low-d.; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)

L133 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 2003:713624 Document No. 139:308782 Studies on the preparation of immersion-type polypropylene fragrant fiber. II.
 The supermolecular structure of the matrix fiber and its sorption properties for fragrant molecules. Wang, Bing; Zhao, Jiasen (School of Material Science and Chemical Engineering, Tianjin Polytechnic University, Tianjin, 300160, Peop. Rep. China). Journal of Applied Polymer Science, 90(4), 973-981 (English) 2003. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: John Wiley & Sons, Inc..
 AB The supermol. structure and mech. properties of a matrix

fiber were investigated with differential scanning calorimetry, wide-angle X-ray diffraction, sonic velocity instrumentation, and fiber electronic cerimetry. The results indicated that the apparent crystallinity of the matrix fiber, the crystallinity of the polypropylene (PP) component, and the mech. properties of the matrix fiber were all affected by ethylene-vinyl acetate copolymer (EVA). Drawing increased the orientation and tensile strength of the matrix fiber at the proper temperature and ratio of PP to EVA. The matrix fiber, having good mech. properties, was placed in a fragrance-alc. solution or an essential oil for the preparation of a fragrant fiber. The fragrance property of the fiber was determined with generally a method using slow release time as a certain standard, and the results showed that the fragrance property of the fiber was good.

- CC 40-4 (Textiles and Fibers)
Section cross-reference(s): 62
- ST polypropylene fiber morphol
crystallinity sorption fragrant mol; ethylene vinyl acetate
copolymer polypropylene fiber property
- IT Polyolefin fibers
Synthetic polymeric fibers, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(ethylene-vinyl acetate; supermol. structure of
polypropylene-ethylene-vinyl acetate copolymer blend
fiber and its sorption properties for fragrant mols.)
- IT Adsorption
Breaking strength
Crystallinity
Elongation at break
Perfumes
Polymer morphology
Yield strength
(supermol. structure of polypropylene-ethylene-vinyl
acetate copolymer blend fiber and its sorption
properties for fragrant mols.)
- IT Polypropene fibers, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(supermol. structure of polypropylene-ethylene-vinyl
acetate copolymer blend fiber and its sorption
properties for fragrant mols.)
- IT 140-11-4, Benzyl acetate
RL: COS (Cosmetic use); PEP (Physical, engineering or chemical
process); PYP (Physical process); BIOL (Biological study); PROC
(Process); USES (Uses)
(perfume; supermol. structure of polypropylene
-ethylene-vinyl acetate copolymer blend fiber and its

- sorption properties for fragrant mols.)
- IT 24937-78-8, Ethylene-vinyl acetate copolymer 25085-53-4,
Isotactic polypropylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(supermol. structure of **polypropylene**-ethylene-vinyl
acetate copolymer blend **fiber** and its sorption
properties for fragrant mols.)
- L133 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:425650 Document No. 140:164832 Study on in-situ **fiber**
reinforced composites: **polyolefin**/polycaprolactone blend.
Semba, T.; Kitagawa, K.; Hamada, H. (Department of Applied
Chemistry, Kyoto Municipal Institute for Industrial Research,
Shimogyo-ku, Kyoto, 600-8813, Japan). Design, Manufacturing and
Applications of Composites, Proceedings of the Joint Canada-Japan
Workshop on Composites, 4th, Vancouver, BC, Canada, Sept. 19-21,
2002, Meeting Date 2002, 176-183. Editor(s): Lo, J. CRC Press LLC:
Boca Raton, Fla. ISBN: 0-8493-1534-4 (English) 2003. CODEN: 69DYWA.
- AB In-situ **fiber** reinforced composites were manufactured in
polymer processing process with shear and elongational flows. In
this study, the in-situ **fiber** reinforced composite was
prepared by blending **polypropylene** (PP) and polycaprolactone
(PCL). This work proved that the in-situ **fiber** formation
in PP/PCL blends were due to a shear and elongational stress. The
PP/PCL sheets were manufactured by use of single screw extruder equipped
with slit type die which could be applied higher shear and
elongational stresses and heat press machine with lower shear and
elongational stresses. The mech. properties of the extrusion sheets
were considerably improved in contrast with compressive sheets
attributed to the in-situ dispersed long **fiber** phase in
extrusion processing. The DSC curves made clear the
difference of crystallization between the **fiber** and spherical
shape dispersive components.
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37
- ST insitu **fiber** reinforced composite formation
polypropylene polycaprolactone blend
- IT Polyesters, processes
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PYP (Physical process); PROC (Process)
(caprolactone-based; in-situ **fiber** reinforced
composites formation via blending **polypropylene** and
polycaprolactone under shear and elongational flows and
properties of their extruded and press sheets)
- IT Flow
(elongational; in-situ **fiber** reinforced composites
formation via blending **polypropylene** and
polycaprolactone under shear and elongational flows and

- properties of their extruded and press sheets)
- IT **Crystallinity**
Fusion enthalpy
Polymer morphology
Stress-strain relationship
Tensile strength
(in-situ **fiber** reinforced composites formation via
blending **polypropylene** and polycaprolactone under shear
and elongational flows and properties of their extruded and press
sheets)
- IT Polymer blends
Polypropene **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PYP (Physical process); PROC (Process)
(in-situ **fiber** reinforced composites formation via
blending **polypropylene** and polycaprolactone under shear
and elongational flows and properties of their extruded and press
sheets)
- IT Flow
(shear; in-situ **fiber** reinforced composites formation
via blending **polypropylene** and polycaprolactone under
shear and elongational flows and properties of their extruded and
press sheets)
- IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PYP (Physical process); PROC (Process)
(Polypro J 900GP; in-situ **fiber** reinforced composites
formation via blending **polypropylene** and
polycaprolactone under shear and elongational flows and
properties of their extruded and press sheets)
- IT 24980-41-4, ϵ -Caprolactone homopolymer
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PYP (Physical process); PROC (Process)
(assumed monomers; in-situ **fiber** reinforced composites
formation via blending **polypropylene** and
polycaprolactone under shear and elongational flows and
properties of their extruded and press sheets)
- IT 25248-42-4, Celgreen PH 7
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PYP (Physical process); PROC (Process)
(in-situ **fiber** reinforced composites formation via
blending **polypropylene** and polycaprolactone under shear
and elongational flows and properties of their extruded and press
sheets)

L133 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:156493 Document No. 138:370191 Estimating crystallinity in high
density polyethylene **fibers** using online Raman

spectroscopy. Paradkar, R. P.; Sakhalkar, S. S.; He, X.; Ellison, M. S. (Center For Advanced Engineering Fibers and Films, and The School of Materials Science and Engineering, Clemson University, Clemson, SC, 29634-0971, USA). Journal of Applied Polymer Science, 88(2), 545-549 (English) 2003. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: John Wiley & Sons, Inc..

- AB Online Raman spectra, obtained at different points along the spin line during pilot-scale nonisothermal melt spinning of high-d. polyethylene (HDPE) **fibers**, are presented for the first time. The fraction of the crystalline phase corresponding to each spectrum was determined from the normalized integrated intensity of the 1418 cm⁻¹ Raman band. It is well established that this band represents the orthorhombic crystalline phase in polyethylene. The ests. of percent crystallinity obtained from decomposition of the Raman spectrum were compared with the percent crystallinity from **differential scanning calorimetry** (DSC) measurements. Online Raman spectroscopy can be successfully used to monitor the development of **crystallinity** in HDPE **fibers** as a function of distance from the spinneret.
- IT 9002-88-4P, Polyethylene
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (high-d., **fiber**; estimating **crystallinity** in spinning of high-d. polyethylene **fibers** using online Raman spectroscopy)
- RN 9002-88-4 HCAPLUS
- CN Ethene, homopolymer (9CI) (CA INDEX NAME)
- CM 1
- CRN 74-85-1
- CMF C2.H4

H₂C=CH₂

- CC 40-2 (Textiles and Fibers)
- ST **crystallinity** spinning polyethylene **fiber**; HDPE **fiber** spinning **crystallinity** Raman spectroscopy
- IT Crystallinity
 (estimating crystallinity in spinning of high-d. polyethylene **fibers** using online Raman spectroscopy)
- IT Polyolefin **fibers**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (ethylene; estimating **crystallinity** in spinning of high-d.

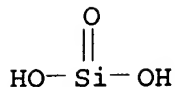
polyethylene fibers using online Raman spectroscopy)
IT 9002-88-4P, Polyethylene
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(high-d., fiber; estimating crystallinity in
spinning of high-d. polyethylene fibers using online
Raman spectroscopy)

L133 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2002:927732 Document No. 138:14348 Optical fiber cable
buffer tube of dimensionally stable polyolefin.
Castellani, Luca; Maritano, Mauro; Brandi, Giovanni (Pirelli Cavi E
Sistemi S.P.A, Italy). PCT Int. Appl. WO 2002097503 A1 20021205, 36
pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG,
BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES,
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,
NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES,
FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD,
TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-EP5536
20020521. PRIORITY: EP 2001-113193 20010530; US 2001-PV294574
20010601.

AB The buffer tubes for optical fibers comprise a first
crystalline polyolefin, i.e., propylene-alkene
copolymers and a second crystalline polyolefin, i.e.,
polypropylene or ethylene-propylene
copolymer, and 0.05-1% nucleating agent,
selected from inorg. salts, D-sorbitol derivs.,
carboxylic acids and their salts, talc, and mixts. A
mixture of crystalline propylene-butylene copolymers
(Clyrell 831, melt flow index (MI) 1.8 g/10 min and Moplen Ultra 925
MI of 10 g/min and containing phenolic stabilizer), talc, and
Millad 3988 (sorbitol derivative) nucleating
agent was mixed at 190° and extruded to obtain tubes
of 3.5 mm outer diameter The tubes can be extruded at low temps. and
show good dimensional stability, no deformation, and high
transparency, and are suitable for land and undersea deployment.

IT 14807-96-6, Talc, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(extruded tubes of crystalline polypropylene-
polyolefin with good dimensional stability and
transparency for buffer casing of optical fiber cables)

RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



● 3/4 Mg

IT 135861-56-2, Millad 3988

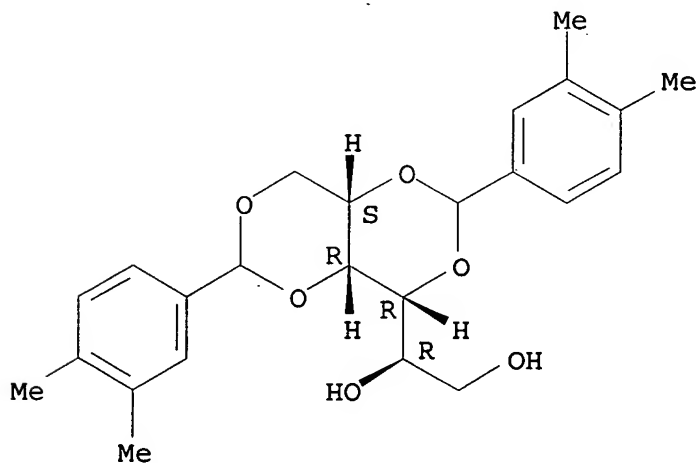
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(nucleating agent; extruded tubes of crystalline polypropylene-polyolefin with good dimensional stability and transparency for buffer casing of optical fiber cables)

RN 135861-56-2 HCAPLUS

CN D-Glucitol, 1,3:2,4-bis-O-[(3,4-dimethylphenyl)methylene] - (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



IC ICM G02B006-44

ICS C08L023-14; C08F210-06

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 73

ST polypropylene polyolefin buffer tube optical fiber cable; nucleating agent

- sorbitol deriv propylene copolymer tube**
- IT Crystal nucleating agents
Extrusion of plastics and rubbers
Optical cables
Pipes and Tubes
(extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical fiber cables)
- IT 29160-13-2, 1-Butene-**propylene copolymer**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(crystalline, Clyrell 831RCXP and Moplen Ultra 925RCXP; extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical fiber cables)
- IT 14807-96-6, Talc, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical fiber cables)
- IT 135861-56-2, Millad 3988
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**nucleating agent**; extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical fiber cables)

L133 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2002:727406 Document No. 137:233957 Manufacture of polyester filaments with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester filaments with lubricants to form filaments with specified degree of swelling. Ito, Makoto; Yamashita, Kenji (Nippon Ester Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002275731 A2 20020925, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-80612 20010321.

- AB The polyester filaments (A) are prepared by the steps comprising the steps of (a) melt spinning a polyester, (b) cooling and solidifying the fibers, and (c) coating the fibers with lubricants to form fibers with a lubricant content to cause degree of swelling $[(E2-E1)/E1]100$; E1 = natural stretching elongation of the nonlubricated undrawn yarns in %; E2 = natural stretching elongation of the lubricated undrawn

yarns in %] of the **fibers** $\geq 5\%$ and give **filaments** with initial modulus ≤ 50 cN/**dtex** and elastic recovery $\geq 50\%$ at stretch 15%, or A polyester **filaments** are prepared by the above steps to give **filaments** with lubricant content 0.25-1.0% (on **filament**). Poly(butylene terephthalate) was melt spun, coated with an **aqueous emulsion** containing 50% polyethylene-polypropylene glycol (I) with mol. wt . (Mw) 1000 and 42% I with Mw 500, and wound to give a package with **weight kg** and comprising **fibers** with lubricant content 0.50% and degree of swelling 8.5% and showing unwinding tension of the outer layer 1.5 cN, unwinding tension of the middle layer 2.0 cN, and unwinding tension of the inner layer 3.5 cN. The spun **fibers** were drawn at 70° and heat-treated 110° to give yarns with tensile strength 2.9 cN/**dtex** , elongation 35%, initial modulus 38 cN/**dtex**, and elastic recovery 65%.

IC ICM D01F006-62

ICS D01F006-62

CC 40-2 (Textiles and Fibers)

ST polybutylene terephthalate **fiber spinning**
 lubricant **finishing** unwinding property enhancement;
 polytrimethylene terephthalate **fiber spinning**
 lubricant **finishing** unwinding property enhancement;
 polyester **fiber spinning** lubricant
finishing unwinding property enhancement

IT Polyester **fibers**, uses

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (butanediol-terephthalic acid; manufacture of polyester **filaments** with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Polyoxyalkylenes, uses

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (ethers with castor oil; manufacture of polyester **filaments** with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Castor oil

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (ethoxylated; manufacture of polyester **filaments** with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments**)

- with specified degree of swelling)
- IT Hydrocarbon oils
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (lubricant; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)
- IT Lubricants
 (manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)
- IT Polyester **fibers**, uses
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)
- IT Polyester **fibers**, uses
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (terephthalic acid-trimethylene glycol; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)
- IT 24968-12-5, Poly(butylene terephthalate) 26062-94-2, Poly(butylene terephthalate) 26546-03-2, Terephthalic acid-trimethylene glycol copolymer, sru 26590-75-0, Terephthalic acid-trimethylene glycol copolymer
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (fiber; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)
- IT 9002-92-0, Polyoxyethylene lauryl ether 9003-11-6, Polyethylene-polypropylene glycol 19149-85-0, Oleyl laurate 31565-37-4, Isotridecyl stearate
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)

(lubricant; manufacture of polyester filaments with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester filaments with lubricants to form filaments with specified degree of swelling)

IT 25322-68-3D, Polyethylene glycol, ethers with castor oil
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(manufacture of polyester filaments with low modulus and high elastic recovery and good winding and unwinding properties by coating the spun polyester filaments with lubricants to form filaments with specified degree of swelling)

L133 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

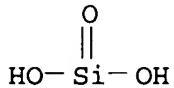
2002:503288 Document No. 137:81352 Polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks. Hofmann, Achim; Radden, Peter; Reil, Frank; Reuschel, Gerhard; Sparenberg, Bernd (Ticona G.m.b.H., Germany). Ger. Offen. DE 10064656 A1 20020704, 8 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2000-10064656 20001222.

AB A casing material, especially for fuel cell stacks, with high thermal stability and low gas permeability coeffs., consist of a layer of liquid crystalline polymer and at least one layer of a polyarylene sulfide, preferably poly-p-phenylene sulfide. Suitable liquid crystalline polymers can include polyethylene terephthalate, poly(p-phenyleneisophthalamide), poly(m-phenyleneisophthalamide), polyester carbonates, polyazomethines, polyarylates, polythioesters, polyester polyamides, and polyester polyimides. The material, which can be used in combination with other plastics or metals, can be combined or reinforced with a number of other components, including fillers, reinforcing fibers, graft copolymers, antioxidants, nucleation agents, mold-releasing agents, etc.

IT 14807-96-6, Talc, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

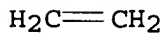
RN 14807-96-6 HCAPLUS

CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IT 9002-88-4, Polyethylene
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (ultrahigh-d.; plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



IC ICM H01M008-02
 ICS F17C001-16
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38
 IT Reinforced plastics
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (aramid fiber-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
 IT Reinforced plastics
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (carbon fiber-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
 IT Chalk
 Mica-group minerals, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material

- for fuel cell stacks)
- IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(glass **fiber**-reinforced, housing materials containing;
polythiophenylene-based gas-impermeable, high-thermal-stability
polymer housing material for fuel cell stacks)
- IT **Polyolefins**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); USES (Uses)
(graft polymers with acrylonitrile-styrene copolymer, plastic
composites containing; polythiophenylene-based gas-impermeable,
high-thermal-stability polymer housing material for fuel cell
stacks)
- IT **Silicates, uses**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); USES (Uses)
(layered, filler, plastic composites containing; polythiophenylene-
based gas-impermeable, high-thermal-stability polymer housing
material for fuel cell stacks)
- IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(mineral **fiber**-reinforced, housing materials containing;
polythiophenylene-based gas-impermeable, high-thermal-stability
polymer housing material for fuel cell stacks)
- IT 471-34-1, Calcium carbonate, uses 1318-93-0, Montmorillonite, uses
7631-86-9, Silicon dioxide, uses 13983-17-0, Wollastonite
14807-96-6, Talc, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); USES (Uses)
(filler, plastic composites containing; polythiophenylene-based
gas-impermeable, high-thermal-stability polymer housing material
for fuel cell stacks)
- IT 9002-84-0, PTFE 9003-54-7D, Acrylonitrile-styrene copolymer, graft
copolymers with α -olefins
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); USES (Uses)
(plastic composites containing; polythiophenylene-based
gas-impermeable, high-thermal-stability polymer housing material
for fuel cell stacks)
- IT **9002-88-4, Polyethylene**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); USES (Uses)
(ultrahigh-d., plastic composites containing; polythiophenylene-based
gas-impermeable, high-thermal-stability polymer housing material
for fuel cell stacks)

L133 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:746858 Document No. 134:253567 Technological aspects of additive

use for **polyolefin fiber** production. Grigoriu, Aurelia; Grigoriu, George Ervant ("Gh. Asachi" Technical University, Iasi, Rom.). **Plastics Engineering** (New York), 59(Handbook of Polyolefins (2nd Edition)), 825-839 (English) 2000. CODEN: PLENEZ. ISSN: 1040-2527. Publisher: Marcel Dekker, Inc..

AB A review with 115 refs. Stabilizers, flame retardants, biocides, and **spin finishing** additives for **polyolefin fibers** were introduced. Requirements of **polyolefin fiber** additives were discussed.

CC 40-0 (Textiles and Fibers)

ST review **polyolefin fiber** additive

IT Biocides

Fireproofing agents.

Stabilizing agents

(technol. aspects of additive use for **polyolefin fiber** production)

IT **Polyolefin fibers**

RL: IMF (Industrial manufacture); PREP (Preparation)

(technol. aspects of additive use for **polyolefin fiber** production)

L133 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

2000:746338 Document No. 133:267592 **Fiber-reinforced** polyethylene terephthalate (PET) composition. Yeum, Joon-Taek; Choe, Byung-Kil; Sonn, Young-Ho (Cheil Synthetics, Inc., S. Korea). Repub. Korea KR 132378 B1 19980413, No pp. given (Korean). CODEN: KRXXFC. APPLICATION: KR 1994-18181 19940726.

AB The title compns. with improved plasticity and mold release properties comprise PET having inherent viscosity of 0.5-0.9 100, inorg. filler having particle diameter 30-500 μm , e.g., **mica**, 0.1-40, **fiber** reinforcing agent, e.g., **glass fiber** and **carbon fiber** 0.1-30, inorg. **nucleating agent** with high dispersibility, e.g., **silica**, **kaolin** or **talc** 0.1-10, a polyester resin with low mol. weight or a **polyolefin** resin 0.5-30, and Na, Mg or Zn salt of copolymer of α -olefin hydrocarbon and α,β -unsatd. carboxylic acid 0.1-10 parts.

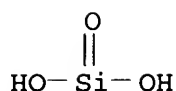
IT 14807-96-6, Talc, uses

RL: MOA (Modifier or additive use); USES (Uses)

(**nucleating agent**; **fiber-reinforced polyethylene terephthalate** composition)

RN 14807-96-6 HCAPLUS

CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08L067-02
 CC 37-6 (Plastics Manufacture and Processing)
 ST polyethylene terephthalate **fiber** reinforced compn
 plasticity mold release
 IT Polyesters, uses
 Polymer blends
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (**fiber**-reinforced polyethylene terephthalate composition)
 IT Carbon **fibers**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**fiber**-reinforced polyethylene terephthalate composition)
 IT Mica-group minerals, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (fillers; **fiber**-reinforced polyethylene terephthalate composition)
 IT **Polyolefins**
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (low-mol. weight; **fiber**-reinforced polyethylene terephthalate composition containing)
 IT Fillers
 (mica; **fiber**-reinforced polyethylene terephthalate composition)
 IT Kaolin, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (**nucleating agent**; **fiber**-reinforced polyethylene terephthalate composition)
 IT Glass **fibers**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reinforcing agents; **fiber**-reinforced polyethylene terephthalate composition)
 IT Carboxylic acids, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (unsatd., α, β -, **copolymers** with α -olefins, metal salts;
fiber-reinforced polyethylene terephthalate composition)

IT Alkenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(α -, copolymers with unsatd. carboxylic
acids, metal salts; fiber
-reinforced polyethylene terephthalate composition)

IT 25038-59-9, Poly(ethylene terephthalate), uses
RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)
(fiber-reinforced polyethylene terephthalate composition)

IT 7631-86-9, Silica, uses 14807-96-6, Talc, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nucleating agent; fiber-reinforced
polyethylene terephthalate composition)

L133 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:615179 Document No. 133:194497 Preliminary study on domestic
UHMWPE fiber. Hu, Zuming; Yu, Junrong; Liu, Zhaofeng;
Lin, Jiguang (State Key Laboratory for Modification of Chemical
Fibers and Polymer Materials, Donghua University, Shanghai, 200051,
Peop. Rep. China). Hecheng Xianwei Gongye, 23(4), 13-15 (Chinese)
2000. CODEN: HXIGEU. ISSN: 1001-0041. Publisher: Yueyang Shiyou
Huagong Zhongchang Yanjiuyuan.

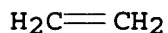
AB The structure and mech. properties of domestic UHMWPE fiber
were studied by mech. property tester, acousticmeter, crystalline
orientation tester, WAXD and DSC, and compared with those
of imported UHMWPE fiber. The mech. properties and crystalline
structure of domestic UHMWPE fiber were similar to those
of imported fiber, the elongation at break was higher, and
the amorphous orientation lower. The domestic fiber can
be drawn at higher ratio to achieve better mech. properties.

IT 9002-88-4, Polyethylene
RL: PRP (Properties)
(fibers; crystalline structure, mech. and thermal properties
of UHMWPE fiber made in China)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



CC 40-4 (Textiles and Fibers)
ST UHMWPE fiber mech thermal crystallinity;

- polyethylene fiber mech
IT Crystal structure
Crystallinity
Fusion enthalpy
(crystalline structure, mech. and thermal properties of UHMWPE fiber made in China)
- IT Polyolefin fibers
RL: PRP (Properties)
(ethylene; crystalline structure, mech. and thermal properties of UHMWPE fiber made in China)
- IT 9002-88-4, Polyethylene
RL: PRP (Properties)
(fibers; crystalline structure, mech. and thermal properties of UHMWPE fiber made in China)
- L133 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:177063 Document No. 132:309630 Structural changes of gel drawn, ultra-high molecular weight polyethylene fibers with kerosene as a solvent. Xiao, C. F.; Zhang, Y. F.; An, S. L.; Jia, G. X. (Department of Materials Science, Tianjin Institute of Textile Science and Technology, Tianjin, 300160, Peop. Rep. China). Polymer Engineering and Science, 40(1), 238-246 (English) 2000. CODEN: PYESAZ. ISSN: 0032-3888. Publisher: Society of Plastics Engineers.
- AB Fibers of ultra-high mol. weight polyethylene (UHMW-PE) were prepared with the gel fiber drawing method. The solvent and extraction solvent used were a general kerosene and gasoline, resp. The structural changes in the fibers during the drawing process were examined by wide-angle X-ray diffraction (WAXD), polarizing optical microscopy (POM), and a d. gradient column. During the drawing process, a folded chain structure transformed into an extended-chain in the fiber, the d. of the fibers increased, and the dimensions of the orthorhombic crystallite size tended towards a narrow distribution simultaneously with the increasing draw ratio. The orthorhombic unit cell dimensions for the fiber with a draw ratio of 40 were $a = 0.732$ nm, $b = 0.491$ nm, and $c = 0.254$ nm. In the fiber with a draw ratio of about 40, kink bands were observed. It is suggested they correspond with the local crystalline slip due to the effect of winding tension. Also, the smaller the winding roller diameter, the more clearly they can be observed. In this work, the effect of the existence of kink bands on the structures of orientation and crystallinity of fiber bulk was not observed.
- IT 9002-88-4, Polyethylene
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(structural changes of gel drawn, ultra-high mol. weight

polyethylene fibers with kerosene as solvent)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4

H₂C=CH₂

CC 40-4 (Textiles and Fibers)

ST polyethylene fiber structure **crystallinity**; gel
drawn polyethylene fiber

IT **Polyolefin fibers**

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(ethylene; structural changes of gel drawn, ultra-high mol. weight
polyethylene fibers with kerosene as solvent)

IT Crystallinity

Polymer chains

(structural changes of gel drawn, ultra-high mol. weight
polyethylene fibers with kerosene as solvent)

IT Kerosene

RL: NUU (Other use, unclassified); USES (Uses)

(structural changes of gel drawn, ultra-high mol. weight
polyethylene fibers with kerosene as solvent)

IT 9002-88-4, Polyethylene

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(structural changes of gel drawn, ultra-high mol. weight
polyethylene fibers with kerosene as solvent)

L133 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1999:631331 Document No. 131:244556 Manufacture of synthetic
fiber tow with reduced yarn slippage on take-up rolls for
reduced residual waste yarn formation during the drawing step and
good drawability. Yokoyama, Masao; Kamata, Shigeyoshi; Nakano,
Akira (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP
11269716 A2 19991005 Heisei, 4 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1998-68179 19980318.

AB Synthetic fiber tow is prepared by melt spinning

polymers, finishing the fibers to form a tow

with H₂O content (S) 15-35%, and taking up the tow using a take-up
roll to cause ratio of denier (D) of the tow to width (W) of the tow
on the take-up roll in m 1x106-3x106. A polyester was melt spun,

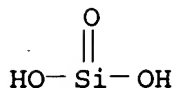
coated with an aqueous dispersion containing 0.3% alkyl phosphate salt to form a tow with D 15x104 denier and S 30%, taken up using a take-up roll (D/W 2.73x106), and fed to a container for a certain period. The spun tow was sep. taken up from 25 containers and drawn together to give fibers with good drawability and low amount of residual waste yarns in the container.

IT 9002-88-4, Polyethylene
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (fiber; manufacture of synthetic fiber tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer. (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4

$\text{H}_2\text{C}=\text{CH}_2$

IC ICM D01D005-096
 ICS D01D007-00; D01F006-06; D01F006-60; D01F006-62; D01F006-76
 CC 40-2 (Textiles and Fibers)
 ST polyester fiber tow manuf drawing waste redn; polyamide fiber tow manuf drawing waste redn; polyethylene fiber tow manuf drawing waste redn; polypropylene fiber tow manuf drawing waste redn; fiber synthetic tow manuf drawing waste redn
 IT Polyolefin fibers
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (ethylene; manufacture of synthetic fiber tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)
 IT Polyamide fibers, uses
 Polyester fibers, uses
 Polypropene fibers, uses
 Synthetic polymeric fibers, uses
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (manufacture of synthetic fiber tow with reduced yarn

- slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)
- IT Synthetic polymeric **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyphenyls; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)
- IT 9002-88-4, Polyethylene 9033-83-4, Polyphenylene 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)
- L133 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1999:421143 Document No. 131:103165 Polyketone compositions for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability. Yamauchi, Koji; Kanomata, Akinori; Inoue, Toshihide (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 11181273 A2 19990706 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-355827 19971224.
- AB Title connectors are obtained by molding compns. comprising polyketones consisting of x mol% -CH₂CH₂CO- and y mol% -CH₂C(Me)HCO- (y/x 0.01-0.10), optionally **fibrous** and/or nonfibrous fillers, rubber powders (T_g ≤ 20°) dispersed in the polyketones, epoxides, and **nucleating agents**.
Thus, 100 parts polyketone prepared from ethylene, propylene and CO was mixed with 30 parts glass **fiber**, and molded to give a test piece showing good Izod impact strength 80 J/m, tensile strength retention 60% after treating with 50% long life coolant solution for 500 h at 130°, and good dimensional stability.
- IT 14807-96-6, LMS 300, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
- RN 14807-96-6 HCAPLUS
CN Talc (Mg₃H₂(SiO₃)₄) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08L073-00
 ICS C08G067-02; C08K003-00; C08K003-24; C08K003-34; C08K003-36;
 C08K005-098; C08K005-15; C08K005-42; C08K007-02; C08K013-00;
 C08L021-00; C08L023-16; C08L063-00; F01P003-00; F01P005-10

CC 38-3 (Plastics Fabrication and Uses)

ST polyketone automobile water pump connector strength; carbon monoxide
 ethylene **propylene copolymer** heat resistance;
 coolant resistance polyketone water pump connector; dimensional
 stability polyketone water pump connector

IT Glass **fibers**, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (fillers; polyketone compns. for water pump connectors of
 automobiles with high strength and good heat and coolant
 resistance and dimensional stability)

IT Carbonates, uses
 Clays, uses
 Kaolin, uses
Mica-group minerals, uses
 Sulfonates
 RL: MOA (Modifier or additive use); USES (Uses)
 (**nucleating agents**; polyketone compns. for
 water pump connectors of automobiles with high strength and good
 heat and coolant resistance and dimensional stability)

IT Crystal **nucleating agents**
 (polyketone compns. for water pump connectors of automobiles with
 high strength and good heat and coolant resistance and
 dimensional stability)

IT Epoxides
Polyolefin rubber
 RL: MOA (Modifier or additive use); USES (Uses)
 (polyketone compns. for water pump connectors of automobiles with
 high strength and good heat and coolant resistance and
 dimensional stability)

IT Carboxylic acids, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (salts, **nucleating agents**; polyketone compns.
 for water pump connectors of automobiles with high strength and
 good heat and coolant resistance and dimensional stability)

- IT 14807-96-6, LMS 300, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; polyketone compns. for
water pump connectors of automobiles with high strength and good
heat and coolant resistance and dimensional stability)
- IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agents**; polyketone compns. for
water pump connectors of automobiles with high strength and good
heat and coolant resistance and dimensional stability)
- IT 88995-51-1P, Carbon monoxide-ethylene-propylene
copolymer
RL: DEV (Device component use); IMF (Industrial manufacture); POF
(Polymer in formulation); PREP (Preparation); USES (Uses)
(polyketone compns. for water pump connectors of automobiles with
high strength and good heat and coolant resistance and
dimensional stability)
- IT 26061-90-5, 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester,
polymer with **ethene**
RL: MOA (Modifier or additive use); USES (Uses)
(rubber; polyketone compns. for water pump connectors of
automobiles with high strength and good heat and coolant
resistance and dimensional stability)

L133 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

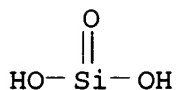
1999:157067 Document No. 130:224178 Parts in optical fiber
cables using **polyolefins**. Risch, Brian G.; Holder, James
D. (Alcatel Alsthom Cie. Generale d'Electricite, Fr.). Jpn. Kokai
Tokkyo Koho JP 11064695 A2 19990305 Heisei, 12 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1998-147510 19980528. PRIORITY: US
1997-891978 19970710.

AB Title cable parts, preferably (multilayer) buffer tubes, fillers
rods, jackets, and slots, are made of **polyolefins** having
melt flow index (MFI) is more than .apprx.3. Alternatively, the
cable parts are made of **ethylene-propylene**
copolymers having MFI .apprx.3-10 and containing 0.05-1%
nucleating agents. The parts show improved
moldability associated with improved mech. strength, compression
resistance, crystallinity, and solvent resistance.

IT 14807-96-6, Talc, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; **polyolefins** with high melting flow index for
parts in optical fiber cables)

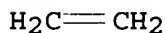
RN 14807-96-6 HCAPLUS

CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



● 3/4 Mg

IT 74-85-1D, Ethylene, polymers with α -olefins
 RL: DEV (Device component use); USES (Uses)
 (linear-low-d.; polyolefins with high melting flow index for parts in optical fiber cables)
 RN 74-85-1 HCAPLUS
 CN Ethene (9CI) (CA INDEX NAME)



IT 9002-88-4, Polyethylene
 RL: DEV (Device component use); USES (Uses)
 (polyolefins with high melting flow index for parts in optical fiber cables)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



IC ICM G02B006-44
 ICS C01B033-22; C01F011-18; C08K003-04; C08K003-26; C08K003-34; C08K003-36; C08K005-098; C08L023-02; C08L023-06; C08L023-12; C08L023-16
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 73
 ST optical fiber cable part polyolefin; high melt flow index polyolefin cable; ethylene propylene copolymer nucleating agent
 IT Carboxylic acids, uses

RL: MOA (Modifier or additive use); USES (Uses)
(alicyclic; **polyolefins** with high melting flow index
for parts in optical fiber cables)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(aliphatic, **nucleating agents**;
polyolefins with high melting flow index for parts in
optical fiber cables)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(aromatic, **nucleating agents**;
polyolefins with high melting flow index for parts in
optical fiber cables)

IT Fillers
(carbon black; **polyolefins** with high melting flow index
for parts in optical fiber cables)

IT Plastic foams
RL: DEV (Device component use); USES (Uses)
(cellular **polyolefins** with high melting flow index for
parts in optical fiber cables)

IT Carbon black
Kaolin
Mica-group minerals
(fillers; **polyolefins** with high melting flow index for
parts in optical fiber cables)

IT Fillers
(kaolin; **polyolefins** with high melting flow index for
parts in optical fiber cables)

IT Fillers
(mica; **polyolefins** with high melting flow
index for parts in optical fiber cables)

IT Optical cables
(**polyolefins** with high melting flow index for parts in
optical fiber cables)

IT Linear low density polyethylenes
RL: DEV (Device component use); USES (Uses)
(**polyolefins** with high melting flow index for parts in
optical fiber cables)

IT **Polyolefins**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**polyolefins** with high melting flow index for parts in
optical fiber cables)

IT 532-32-1, Sodium benzoate 582-25-2, Potassium benzoate 822-16-2,
Sodium stearate
RL: MOA (Modifier or additive use); USES (Uses)
(alicyclic; **polyolefins** with high melting flow index
for parts in optical fiber cables)

IT 471-34-1, Calcium carbonate, uses 7631-86-9, Silica, uses

14807-96-6, Talc, uses

RL: MOA (Modifier or additive use); USES (Uses)
(fillers; **polyolefins** with high melting flow index for parts in optical fiber cables)

IT 74-85-1D, Ethylene, **polymers** with α -olefins

RL: DEV (Device component use); USES (Uses)
(linear-low-d.; **polyolefins** with high melting flow index for parts in optical fiber cables)

IT 10051-44-2, Sodium caproate 14047-56-4

RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agents; polyolefins** with high melting flow index for parts in optical fiber cables)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene

9010-79-1, Ethylene-propylene copolymer

25085-53-4, Isotactic polypropylene

RL: DEV (Device component use); USES (Uses)
(**polyolefins** with high melting flow index for parts in optical fiber cables)

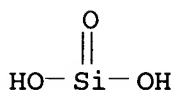
L133 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1999:126936 Document No. 130:169030 Manufacturing **olefin** (co)**polymers** with controlled molecular weight. Ushioda, Tsutomu; Saito, Jun; Tsutsui, Mototake; Yasuda, Yoshitoyo; Fujita, Hiroyuki; Uwai, Toshihiro; Ohgi, Yoshiyuki; Adachi, Minoru; Morimoto, Yoshitaka; Hirose, Taketo; Kugimiya, Youichi; Taniguchi, Masahiko; Kuramochi, Hitoshi (Chisso Corporation, Japan). PCT Int. Appl. WO 9907747 A1 19990218, 88 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (Japanese). CODEN: PIXXD2.
APPLICATION: WO 1998-JP3597 19980812. PRIORITY: JP 1997-217899 19970812; JP 1997-218756 19970813; JP 1997-251689 19970917; JP 1997-273577 19970919.

AB **Olefin** (co)**polymers** with controlled mol. weight from 30,000 to 10,000,000 and excellent rigidity, heat resistance and transparence, usable for various industrial parts, containers, films, sheets, **fibers** are manufactured by use of specific catalysts and selecting polymerization time. Thus, a catalyst 100 g from dimethylsilyl(2,3,5-trimethylcyclopentadienyl)(2',4',5'-trimethylcyclopentadienyl)zirconium dichloride 0.39 g, methylaluminumoxane 267 mmol and silica 10 g was mixed with n-hexane 80 mL, trimethylaluminum 0.5 mmol and propylene was supplied and

polymerized to give a **polypropylene** powder 15.5 g, showing MFR 93 g/10 min., mol. weight 86917, Mw/Mn 2.5.

IT 14807-96-6, Talc, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (crystal **nucleating agent**; manufacturing
olefin polymers with controlled mol. weight)
 RN 14807-96-6 HCAPLUS
 CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08F004-642
 ICS C08F010-00; C08F010-06; C08F297-08; C08L023-10; C08K003-00;
 C08K005-00; C08J005-18; B29C045-00; D01F006-04; D04H001-54
 CC 37-3 (Plastics Manufacture and Processing)
 ST **olefin copolymer** controlled mol wt catalyst;
polypropylene catalyst dimethylsilyltrimethylcyclopentadieny
 1 trimethylcyclopentadienyl zirconium dichloride methylaluminumoxane
 IT Aluminosiloxanes
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst; manufacturing **olefin polymers** with
 controlled mol. weight)
 IT Crystal **nucleating agents**
 (manufacturing **olefin polymers** with controlled mol.
 weight)
 IT **Polyolefins**
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacturing **olefin polymers** with controlled mol.
 weight)
 IT Polypropylene **fibers**, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (nonwoven fabric; manufacturing **olefin**
polymers with controlled mol. weight)
 IT Nonwoven fabrics
 (polypropylene **fiber**; manufacturing **olefin**
polymers with controlled mol. weight)
 IT 97-93-8, Triethylaluminum, uses 2397-67-3, Triisopropylaluminum
 136019-48-2 161442-55-3
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst; manufacturing **olefin polymers** with

- controlled mol. weight)
- IT 14807-96-6, Talc, uses 25085-05-6,
Poly(3-methyl-1-butene) 25498-06-0, Polyvinylcyclohexane
81541-12-0, 1,3:2,4-Di(p-methylbenzylidene)sorbitol
85209-91-2, Sodium 2,2'-methylene-bis-(4,6-di-tert-
butylphenyl)phosphate 88266-74-4, Polyallyltrimethylsilane
RL: MOA (Modifier or additive use); USES (Uses)
(crystal nucleating agent; manufacturing
olefin polymers with controlled mol. weight)
- IT 2212-81-9, 1,3-Bis(tert-butyl-peroxyisopropyl)benzene
RL: MOA (Modifier or additive use); USES (Uses)
(in manufacturing polypropylene with controlled mol. weight)
- IT 9003-07-0P, Polypropylene
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacturing olefin polymers with controlled mol.
weight)
- L133 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1998:535368 Document No. 129:217865 Melt spinning dull polyester
multifilaments containing titanium oxide at high speeds with good
packaging stability. Ezuka, Toshihige; Moriyama, Katsuo (Nippon
Ester Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10219524 A2
19980818 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1997-38403 19970205.
- AB The dull polyester filaments are prepared by melt spinning
polyester multifilaments containing $\geq 1\%$ Ti oxide (I), coating the
fibers with aqueous emulsions containing
2.0-8.0% lubricants mainly comprising ethylene oxide-
propylene oxide copolymer (II) in ≥ 2 steps,
and taking up the fibers at ≥ 2500 m/min to give
fibers with H₂O content 10.0-16.0%. A composition containing
poly(ethylene terephthalate) and 2.0% I was melt spun, coated with
an emulsion containing 5.0% lubricant containing 94% II, subsequently coated
with an emulsion containing 3.0% lubricant containing 94% II, taken up at
3000 m/min, and wound to give a packaging with twill collapsing amount
<0.5% and comprising fibers with lubricant content 0.48%
and H₂O content 14.8%.
- IC ICM D01F011-08
ICS D01D005-096; D01F006-62; D01F006-92
- CC 40-2 (Textiles and Fibers)
- ST polyester fiber dull manuf packaging stability; PET
fiber dull manuf packaging stability; polyethylene
polypropylene glycol lubricant finish polyester; titanium
oxide polyester fiber dull manuf
- IT Polyesters, uses
RL: PEP (Physical, engineering or chemical process); PRP
(Properties); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)

- (fiber; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)
- IT Lubricants
(finishes, containing ethylene oxide-propylene oxide copolymer; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)
- IT Polyoxyalkylenes, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(lubricant finishes; melt spinning of dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)
- IT Polyester fibers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)
- IT 25038-59-9, Poly(ethylene terephthalate), uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)
- IT 9003-11-6, Ethylene oxide-propylene oxide copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(lubricant finish; melt spinning of dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

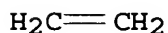
L133 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1998:316405 Document No. 129:29033 Structure model of oriented copolymerized HDPE monofilaments by die drawing process. Yi, Xiaosu; Zou, Xiangping; Tan, Hongsheng (Dep. Polymers, Zhejiang Univ., Hangzhou, 310027, Peop. Rep. China). Gaofenzi Xuebao (2), 227-231 (Chinese) 1998. CODEN: GAXUE9. ISSN: 1000-3304. Publisher: Kexue Chubanshe.

AB Self-reinforced HDPE monofilament were prepared by die drawing process. According to Cox model for fiber composite and Gibson & Ward crystalline bridges model, the reinforced mechanism was discussed to reveal that the mech. improvement of monofilament was

due to the growth of needle-like crystal with larger aspect ratio or the increase in volume fraction of the crystalline bridge. Based on the exptl. results obtained by DMA, DSC and SEM, the theor. prediction was also analyzed and discussed, and the theor. values could well-explain the monofilament behavior.

IT 9002-88-4, Polyethylene
 RL: PRP (Properties)
 (high-d., DGDB 2480; orientation, crystallinity, and morphol. of oriented HDPE monofilaments from die drawing process)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



CC 40-4 (Textiles and Fibers)
 IT Polyolefin fibers
 RL: PRP (Properties)
 (ethylene; orientation, **crystallinity**, and morphol. of oriented HDPE monofilaments from die drawing process)
 IT Crystallinity
Filaments
 Polymer morphology
 (orientation, **crystallinity**, and morphol. of oriented HDPE monofilaments from die drawing process)
 IT 9002-88-4, Polyethylene
 RL: PRP (Properties)
 (high-d., DGDB 2480; orientation, crystallinity, and morphol. of oriented HDPE monofilaments from die drawing process)

L133 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1998:268573 Document No. 129:5609 Thermobondable **polyolefin fibers** and their production method. Stengaard, Flemming Faurby; Balslev, Henrik; Carstensen, Peter (Fibervisions A/s, Den.; Stengaard, Flemming Faurby; Balslev, Henrik; Carstensen, Peter). PCT Int. Appl. WO 9817746 A1 19980430, 37 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR,

IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English).
CODEN: PIXXD2. APPLICATION: WO 1997-DK467 19971023. PRIORITY: DK
1996-1178 19961024; US 1996-29913 19961104; DK 1997-71 19970120.

AB A method for producing hydrophobic **polyolefin**-containing
fibers or **filaments**, in particular cardable staple
fibers, comprises treating **fibers** with hydrophobic
spin finishes after **spinning** and
stretching, that comprise ≥ 1 water-insol. ester of a mono-,
di-, tri- or tetrahydric alc. with mol. weight ≤ 500 and a
branched or straight chain C12-30 fatty acid, e.g. a water-insol.
ester of ethylene or propylene glycol, glycerol, neopentyl glycol,
trimethylolethane or trimethylolpropane and ≥ 1 C12-24
(un)saturated fatty acid residue, an anionic or nonionic antistatic
agent preferably being applied after crimping. **Fibers**
produced by the method and **nonwovens** produced from such
fibers are included.

IT 9002-88-4P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or
chemical process); PRP (Properties); PREP (Preparation); PROC
(Process)

(high-d., bicomponent core-sheath **fibers**; manufacture of
hydrophobic thermobondable **polyolefin** staple
fibers and **nonwovens**)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4

$\text{H}_2\text{C}=\text{CH}_2$

IC ICM C10M101-00

ICS D06M013-292; D06M013-224

CC 40-10 (Textiles and Fibers)

ST hydrophobic **polyolefin** fiber filament;
cardable staple **polyolefin** fiber; antistatic
agent **polyolefin** fiber; bicomponent HDPE
polypropylene fiber; ester **spin**
finish **polyolefin** fiber; spunbond
meltblown **polyolefin** nonwoven

IT Alcohols, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated, **spin finishes**; manufacture of
hydrophobic thermobondable **polyolefin** staple

- fibers and nonwovens)
- IT **Polyolefin fibers**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(ethylene, bicomponent core-sheath; manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT **Polyolefin fibers**
Polypropene fibers, preparation
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(ethylene-propene; manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT **Polysiloxanes, uses**
Waxes
RL: MOA (Modifier or additive use); USES (Uses)
(friction-reducing additive; manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT **Esters, uses**
RL: TEM (Technical or engineered material use); USES (Uses)
(hydrophobic **spin finishes**; manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT **Nonwoven fabrics**
Waterproofing
Wetting agents
(manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT **Polyolefin fibers**
Polypropene fibers, preparation
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT 53026-21-4 53126-06-0, Potassium butyl phosphate
RL: MOA (Modifier or additive use); USES (Uses)
(antistatic agents; manufacture of hydrophobic thermobondable **polyolefin staple fibers and nonwovens**)
- IT 9010-79-1P, Ethylene-propylene copolymer
25085-53-4P, **Isotactic polypropylene**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC

(Process)

(**fibers**; manufacture of hydrophobic thermobondable
polyolefin staple **fibers** and **nonwovens**

)

IT 9002-88-4P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or
chemical process); PRP (Properties); PREP (Preparation); PROC
(Process)

(high-d., bicomponent core-sheath **fibers**; manufacture of
hydrophobic thermobondable polyolefin staple
fibers and **nonwovens**)

IT. 56-81-5D, 1,2,3-Propanetriol, esters, uses 57-55-6D,
1,2-Propanediol, esters, uses 77-85-0D, Trimethylolethane, esters
77-99-6D, esters 107-21-1D, 1,2-Ethanediol, esters, uses
126-30-7D, esters 25618-55-7D, Polyglycerol, esters

RL: TEM (Technical or engineered material use); USES (Uses)
(hydrophobic **spin finishes**; manufacture of
hydrophobic thermobondable polyolefin staple
fibers and **nonwovens**)

L133 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1997:754565 Document No. 128:35371 Hydroperoxide-initiated grafting of
poly(styrene-stat-acrylonitrile) onto ultra-high modulus
polyethylene **fibers**. Arnold, J. J.; Zamora, M. P.;
Batich, C. D.; Brennan, A. B. (Department Materials Science
Engineering, University Florida, Gainesville, FL, 32611, USA).
Journal of Adhesion Science and Technology, 11(10), 1343-1358
(English) 1997. CODEN: JATEE8. ISSN: 0169-4243. Publisher: VSP
BV.

AB There is evidence from modeling expts. that designed interphases,
e.g. varying graft mol. weight and/or an adjustable interphase
modulus, will provide a method of tailoring the mech.
response of a composite. There is no exptl. evidence yet to
substantiate these claims in **fiber**-reinforced composites.
Hence, a grafting method that allows better design of the
interphase, i.e. an intelligent interphase, is described. The
authors' approach is to engineer intelligent interphases using a
hydroperoxide-initiated grafting technique that provides a novel
method of grafting by a free radical-type polymerization This study
describes the hydroperoxidn. and grafting of poly(styrene-stat-
acrylonitrile) (SAN) onto ultra-high modulus polyethylene
(UHMPE) **fibers**. Differential scanning
calorimetry and **fiber** tensile tests were used to
monitor the effect of the surface treatment on bulk
crystallinity and **fiber** tensile properties. These
characterization methods showed that the hydroperoxidn. treatment
was not deleterious to the **fiber** bulk
properties. The N in poly(styrene-stat-acrylonitrile) was used as a

marker for ESCA in order to verify grafting. ESCA anal. also demonstrated that the grafting reaction was a surface phenomenon, not a bulk treatment. Tapping-mode atomic force microscopy (AFM) was used to image the surface morphol. of the UHMPE fibers and images of the SAN-grafted fibers revealed a distinct topog. comprised of nodules, 3-12 nm high and 10-25 nm apart. A simple hard-sphere model is presented to explain the polymer graft conformation based on the surface morphol. as imaged by AFM. The model corroborates the conclusions that the hydroperoxidn. grafting yields linear chains tethered at the amorphous surface domains.

IT 9002-88-4DP, Polyethylene, peroxidized
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (fibers; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high modulus polyethylene fibers)

RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
 CMF C2 H4

$\text{H}_2\text{C}=\text{CH}_2$

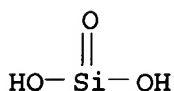
CC 37-4 (Plastics Manufacture and Processing)
 ST polyethylene fiber hydroperoxidized grafting polystyrene acrylonitrile
 IT Polyolefin fibers
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (ethylene; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high modulus polyethylene fibers)

IT Polymer morphology
 (surface; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high modulus polyethylene fibers)

IT 9002-88-4DP, Polyethylene, peroxidized 25087-32-5P, Acrylonitrile-ethylene-styrene copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (fibers; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high modulus polyethylene

fibers)

- IT 9003-54-7P, Acrylonitrile-styrene copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (grafting of poly(styrene-acrylonitrile) onto hydroperoxidized
 ultra-high modulus polyethylene fibers)
- L133 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1997:618917 Document No. 127:279066 Poly(ethylene terephthalate)-based
 polyester compositions with improved mechanical strength and
 moisture-heat resistance. Matsumoto, Kazuaki (Kanegafuchi Chemical
 Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09241490 A2
 19970916 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
 JP 1996-85813 19960313.
- AB Title compns. contain (A) 100 parts poly(ethylene
 terephthalate)-based polyesters prepared by polymerization using Ge compound
 catalysts, (B) 0.2-50 parts graft copolymers obtained by contacting
 (a) 100 parts **polyolefins** with **aqueous**
suspensions containing (b) 0.1-500 parts vinyl monomers, (c)
 0.1-30 parts CH₂:CRC(:O)NHCH₂Ar (Ar = ≥1 glycidyloxy-containing
 C₆-23 aromatic hydrocarbyl; R = H, Me), and (d) 0.01-10 parts [for 100
 parts of (a + b)] radically polymerization initiators, and (C) 5-200 parts
 reinforcement fillers. Thus, poly(ethylene terephthalate) prepared
 using GeO₂ 100, N-[(2,3-epoxypropoxy)-3,5-
 dimethylphenylmethyl]acrylamide-ethylene-propylene-styrene
 graft copolymer 10, T 195H/P (glass fiber) 50,
 ADK Stab AO 60 0.35, and ADK Stab AO 412S 0.15 part were dry
 blended, melt kneaded, pelletized, and injection molded to give a
 test piece showing tensile strength 150 MPa and good
 moisture-heat resistance.
- IT 14807-96-6, Micro Ace K 1, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (crystal **nucleating agents**; poly(ethylene
 terephthalate)-based polyester blends with improved mech.
 strength and moisture-heat resistance)
- RN 14807-96-6 HCAPLUS
 CN Talc (Mg₃H₂(SiO₃)₄) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
ICS C08K003-00; C08K005-00; C08G063-85; C08L067-02; C08L051-06

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 38

ST polyester grafted **polyolefin** blend mech strength;
polyethylene terephthalate **polyolefin** blend mech strength;
glycidyl **polyolefin** grafted blend polyester; moisture
resistance polyester grafted **polyolefin**; heat resistance
polyester grafted **polyolefin**; germanium polymn catalyst
polyethylene terephthalate

IT Mica-group minerals, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agents**, A 21S;
poly(ethylene terephthalate)-based polyester blends with improved
mech. strength and moisture-heat resistance)

IT Reinforced plastics
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(**fiber**-reinforced; poly(ethylene terephthalate)-based
polyester blends with improved mech. strength and moisture-heat
resistance)

IT **Polyolefins**
Polyolefins
RL: MOA (Modifier or additive use); USES (Uses)
(graft; poly(ethylene terephthalate)-based polyester blends with
improved mech. strength and moisture-heat resistance)

IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcements, T 195H/P; poly(ethylene terephthalate)-based
polyester blends with improved mech. strength and moisture-heat
resistance)

IT 14807-96-6, Micro Ace K 1, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agents**; poly(ethylene
terephthalate)-based polyester blends with improved mech.
strength and moisture-heat resistance)

IT 106-89-8, Epichlorohydrin, reactions 13579-23-2,
4-Acrylamidomethyl-2,6-dimethylphenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of modifiers for grafted **polyolefins**)

L133 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1996:722186 Document No. 125:331503 Rewettable **polyolefin**
fibers for **nonwoven** fabric layer in diapers.
Carstensen, Peter; Revsbaek, Per; Dyrmoose-Jensen, Katharine
(Danaklon A/s, Den.; Carstensen, Peter; Revsbaek, Per;
Dyrmoose-Jensen, Katharine). PCT Int. Appl. WO 9633303 A1 19961024,
38 pp. DESIGNATED STATES: W: AU, BR, CA, CN, CZ, CZ, DE, DK, EE,

EE, GE, HU, IS, JP, KR, LT, LV, MX, NO, NZ, PL, RU, SG, SI, SK, SK, UA, US, VN; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-DK178 19960419. PRIORITY: DK 1995-468 19950421.

- AB Synthetic **fibers** are prepared by applying to spun **filaments** a first **spin finish** comprising ≥ 1 hydrophilic lubricant, stretching the **filaments**, applying to the stretched **filaments** a second **spin finish** comprising ≥ 1 cationic antistatic agent, and crimping, drying, and cutting the **filaments** to obtain hydrophilic staple **fibers**. The **spin finishes**, which may each contain a hydrophilic lubricant and a cationic antistatic agent, may also contain a small amount of a polydiorganosiloxane. The **fibers** may be carded at high speeds and are useful for the preparation of hydrophilic **nonwoven** materials that can maintain wettability after one or several wettings. **Polypropylene fibers** were finished (both **spin finishes** of fatty alc. ethoxylate lubricant and fatty acid/polyamine condensate antistat), crimped, annealed, cut to staple **fibers** of fineness 2.2 dtex, carded, and thermally bonded (161°) to form **nonwovens** having tensile strength (machine direction) 42.0 g, bondability index 23, and rewet 0.3%, vs. 36.3, 16.1, and 0.26, resp., using anionic ethoxylated silicone **spin finish**.
- IC ICM D01F006-04
ICS D06M013-46; D06M015-647
- ICI D06M101-20
- CC 40-9 (Textiles and Fibers)
- ST **polyolefin fiber** hydrophilic finish **nonwoven**; diaper water repellent **nonwoven** finished; rewettable hydrophilic finished **polyolefin fiber**
- IT Quaternary ammonium compounds, uses
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)
- IT Lubricants
(hydrophilic, in finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)
- IT Antistatic agents
(in finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)
- IT Siloxanes and Silicones, uses

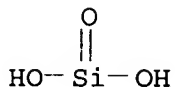
- RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (in finish for **polyolefin fibers**; rewettable
 hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in diapers)
- IT Diapers
 (rewettable hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in)
- IT Textile easy-care finishing
 (rewettable hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in diapers)
- IT Polypropene fibers, uses
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); TEM (Technical or engineered material use); PROC
 (Process); USES (Uses)
 (rewettable hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in diapers)
- IT Alcohols, uses
 Amides, uses
 Esters, uses
 RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (alkoxy, lubricant for **polyolefin fibers**;
 rewettable hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in diapers)
- IT Alcohols
 RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (ethoxylated, finish for **polyolefin fibers**;
 rewettable hydrophilic **polyolefin fibers** for
 nonwoven fabric layer in diapers)
- IT Textiles
 (nonwoven, rewettable hydrophilic **polyolefin**
fibers for nonwoven fabric layer in diapers)
- IT 25085-53-4, **Isotactic polypropylene**
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); TEM (Technical or engineered material use); PROC
 (Process); USES (Uses)
 (fiber; rewettable hydrophilic **polyolefin**
fibers for nonwoven fabric layer in diapers)

L133 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1996:417697 Document No. 125:95452 Microporous membranes containing
polyolefins and ion-exchange fibers. Nago, Kunya (Tokuyama
 Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08117576 A2 19960514
 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 1994-257021 19941021.

AB The microporous membranes comprise (a) 15-70 weight%

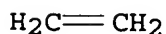
polyolefins, (b) 84-20 weight% filler particles (average particle size 0.01-5.0 μm) dispersed in the polyolefins, and (c) 1-10 weight% ion-exchange fibers (fiber diameter $\leq 30 \mu\text{m}$, average fiber length 200-2000 μm) dispersed in the polyolefins in parallel with the membrane surfaces and in approx. the same directions as to the fiber axes, the membranes having network structures comprising continuous pores with maximum pore size $\leq 3.0 \mu\text{m}$, showing void volume 20-90%, and the polyolefins being mol. oriented at the direction of fiber axes of the ion-exchange fibers. The membranes provide efficient removal of contaminants (e.g. trihalomethanes, microorganisms, and other particles) in water and are also useful for air filters, wastewater treatment, etc.

IT 14807-96-6, Talc, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (microporous membranes containing polyolefins, filler particles, and ion-exchange fibers for purification of water and air)
 RN 14807-96-6 HCAPLUS
 CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IT 9002-88-4, Hizex 1300J
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (microporous membranes containing polyolefins, filler particles, and ion-exchange fibers for purification of water and air)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



IC ICM B01D071-26
ICS B01D039-16; B01D071-82; C08J009-00
ICI C08L023-02
CC 61-5 (Water)
Section cross-reference(s): 59, 60
ST porous membrane **polyolefin** ion exchanger; water purifn
porous membrane **polyolefin**; fiber ion exchanger water
purifn; air filter **polyolefin** ion exchanger
IT **Siloxanes** and **Silicones**, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)
(Trefil R 925; microporous membranes containing **polyolefins**
, filler particles, and ion-exchange fibers for purification of water
and air)
IT Synthetic fibers, polymeric
RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)
(divinylbenzene-styrene; microporous membranes containing
polyolefins, filler particles, and ion-exchange fibers
for purification of water and air)
IT Cation exchangers
Ion exchangers
(microporous membranes containing **polyolefins**, filler
particles, and ion-exchange fibers for purification of water and air)
IT Silsesquioxanes
RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)
(Me, microporous membranes containing **polyolefins**, filler
particles, and ion-exchange fibers for purification of water and air)
IT Air purification
Wastewater treatment
Water purification
(filtration, microporous membranes containing **polyolefins**,
filler particles, and ion-exchange fibers for purification of water
and air)
IT 9003-70-7, Divinylbenzene-styrene copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered
material use); USES (Uses)
(fiber; microporous membranes containing **polyolefins**,
filler particles, and ion-exchange fibers for purification of water
and air)
IT 471-34-1, Tunex E, uses 9017-37-2, MP 3000 14807-96-6,
Talc, uses 175069-63-3, KT 115
RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)
(microporous membranes containing **polyolefins**, filler
particles, and ion-exchange fibers for purification of water and air)
IT 9002-88-4, Hizex 1300J 9003-07-0, PN 120 9010-79-1, MS

- 624 178668-38-7, IEF-SC 3025 178668-39-8, IEF-SC 3050
 178668-40-1, IEF-SC 3080
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
 (microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
- IT 71-55-6, 1,1,1-Trichloroethane 74-82-8D, Methane, trihalo derivs.
 RL: REM (Removal or disposal); PROC (Process)
 (microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
- L133 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1995:931282 Document No. 123:343271 Cardable, hydrophobic **polyolefin** staple fibers, their manufacture, and **nonwoven** webs from. Jensen, Arne; Dyrmoose-Jensen, Katharine; Clausen, Lydia Dahl; Marcher, Bjoern (Danaklon A/S, Den.). PCT Int. Appl. WO 9519465 A1 19950720, 56 pp. DESIGNATED STATES: W: AU, BR, CA, CN, CZ, DE, DK, JP, KR, MX, RU, UA, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1995-DK24 19950113. PRIORITY: DK 1994-70 19940114.
- AB Title manufacture comprises applying to spun **filaments** a first **spin finish** comprising ≥ 1 cationic antistatic agent, especially a quaternary ammonium salt, stretching the **filaments**, applying a second **spin finish** dispersion comprising ≥ 1 hydrophobic lubricant selected from a fatty acid amide condensation product and a hydrocarbon wax, crimping, drying, and cutting the **filaments** to obtain **staple fibers**. The **fibers** can be carded at extremely high speeds and are particularly suitable for use in the preparation of thermally bonded hydrophobic **nonwoven** fabrics in which a dry, water-repellent surface which can function as a liquid barrier is desired, e.g., for disposable diapers, feminine hygienic products and medical products. The second finish may further comprise a cationic antistatic agent in ≤ 20 weight%.
- IC ICM D06M013-02
 ICS D06M015-227; D06M013-463; D06M013-402
- CC 40-7 (Textiles and Fibers)
- ST cardable hydrophobic **polyolefin** staple fiber finish; fatty amide cardable hydrophobic **polyolefin** staple; antistatic agent cardable hydrophobic **polyolefin** staple; quaternary cardable hydrophobic **polyolefin** staple
- IT Quaternary ammonium compounds, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (antistatic agents; in production of cardable, hydrophobic **polyolefin** staple fibers)
- IT Paraffin waxes and Hydrocarbon waxes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)

- (in production of cardable, hydrophobic **polyolefin staple fibers**)
- IT **Polyolefin fibers**
Polypropene **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(manufacture of cardable, hydrophobic staple)
- IT Antistatic agents
(quaternary ammonium compds.; in production of cardable, hydrophobic **polyolefin staple fibers**)
- IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fatty, in production of cardable, hydrophobic **polyolefin staple fibers**)
- IT 170905-45-0, Beistat LXO 170906-06-6, Novostat 1105 170906-56-6,
Silastol VP 33G213/1 170906-57-7, Silastol VP 33G213/2
RL: TEM (Technical or engineered material use); USES (Uses)
(antistatic agent; in production of cardable, hydrophobic **polyolefin staple fibers**)
- IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**fiber**; manufacture of cardable, hydrophobic staple)
- IT 9016-00-6, Dimethylsilanediol homopolymer, sru 31900-57-9,
Dimethylsilanediol homopolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(in production of cardable, hydrophobic **polyolefin staple fibers**)
- IT 170905-44-9, Beilub 6993 170906-05-5, Novolub 2440
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant; in production of cardable, hydrophobic **polyolefin staple fibers**)

L133 ANSWER 33 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1995:918311 Document No. 124:90097 Evaluation of the degree of **crystallinity of fibers** from polymer blends. Part I. Kwiatkowski, Ryszard; Wlochowicz, Andrzej; Rabiej, Stanislaw (Inst. Wlokienniczy, Politech. Lodzka, Bielsko-Biala, Pol.). Przegląd Wlokienniczy + Technik Wlokienniczy, 49(8), 8-10 (Polish) 1995. CODEN: PWTWEA. ISSN: 1230-0381. Publisher: Wydawnictwo SIGMA NOT.

- AB A method was proposed for differentiating in the **x-ray diffraction patterns of fibers** prepared from a blend of a semicryst. polymer with an amorphous polymer (S-A samples) or from a blend of a semicryst. polymer with an amorphous copolymer (C-CA samples) between the diffraction of the amorphous and the semicryst. portion of the **fiber**. The method was applied with good results to characterization of **fibers** prepared from **polypropylene-polystyrene**, **polyethylene-ABS polymer**, **poly(butylene terephthalate)** (I)-**nylon 6**,

- and I-nylon 11 blends.
- CC 40-4 (Textiles and Fibers)
Section cross-reference(s): 37
- ST synthetic fiber blend x ray
diffraction; **crystallinity** synthetic fiber
polymer blend; nylon 11 blend synthetic fiber
crystallinity; polybutylene terephthalate synthetic
fiber **crystallinity**; polycaprolactam blend
synthetic fiber **crystallinity**; ABS polymer blend
synthetic fiber **crystallinity**; polyethylene
blend synthetic fiber **crystallinity**; polystyrene
blend synthetic fiber **crystallinity**
- IT Crystallinity
(evaluation of the degree of **crystallinity** of
fibers from polymer blends)
- IT Synthetic fibers, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(evaluation of the degree of **crystallinity** of
fibers from polymer blends)
- IT Polyamide fibers, uses
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(6, evaluation of the degree of **crystallinity** of
fibers from polymer blends)
- IT Acrylic fibers, uses
Synthetic fibers, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(acrylonitrile-butadiene-styrene, evaluation of the degree of
crystallinity of fibers from polymer blends)
- IT Polyester fibers, uses
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(butanediol-terephthalic acid, evaluation of the degree of
crystallinity of fibers from polymer blends)
- IT Polyolefin fibers
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(ethylene, evaluation of the degree of **crystallinity** of
fibers from polymer blends)
- IT Polyamide fibers, uses
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(lauro lactam, evaluation of the degree of **crystallinity**
of fibers from polymer blends)
- IT Synthetic fibers, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(styrene, evaluation of the degree of **crystallinity** of
fibers from polymer blends)

IT 9003-56-9, ABS polymer 24968-12-5, Butanediol-terephthalic acid
copolymer SRU 25035-04-5, Nylon 11 25587-80-8 26062-94-2,
Butanediol-terephthalic acid copolymer
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)

(evaluation of the degree of **crystallinity** of
fibers from polymer blends)

L133 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1995:703798 Document No. 123:85785 Morphology of gel-spun polyethylene
fibers. Khosravi, Nasrin; Warner, S. B.; Murthy, N. S.;
Kumar, Satish (Sch. Textile and Fiber Engineering, Georgia Inst.
Technology, Atlanta, GA, 30332-0295, USA). Journal of Applied
Polymer Science, 57(7), 781-7 (English) 1995. CODEN: JAPNAB. ISSN:
0021-8995. Publisher: Wiley.

AB HNO₃ etching studies were conducted on samples of com. available
highly oriented gel-spun polyethylene **fibers** Spectra 900
and 1000 from Allied Signal, Inc. The results show that the acid
attacks the **fiber**, increases **crystallinity** as
observed by X-ray diffraction, increases
the enthalpy of melting of unconstrained **fibers** by 13-25%,
and removes topol. constraints, thus facilitating the crystallization of
chain segments in the noncryst. regions. The acid functionalizes
the **fiber**, creating various O- and N-containing moieties,
specifically (C=O)-, -C=C-, and -NO₂ groups. The small weight loss
upon etching, less than 2%, and the fact that **fibers**
weaken but do not fragments suggests that the gel-spun and -drawn
morphol. is more resistant to acid attack than are other
morphologies of polyethylene. Photomicroscopy shows that acid
etching opens cracks normal to the **fiber** axis. That the
acid can attack the gel-spun **fibers** indicates the presence
of structural imperfections such as folds, mol. kinds, or uncrystd.
regions within the **fibers**. IR anal. on virgin
fibers shows the absence of absorption bands normally
associated with the presence of chains lying within amorphous regions
in polyethylene. These and other morphol. features are integrated
into a description of the structure of com. gel-spun polyethylene
fibers.

IT 9002-88-4, Polyethylene

RL: PEP (Physical, engineering or chemical process); PRP
(Properties); PROC (Process)

(**fibers**, Spectra 900 and Spectra 1000; morphol. of
acid-etched gel-spun polyethylene **fibers**)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



- CC 40-4 (Textiles and Fibers)
 ST gel spun polyethylene fiber morphol
 IT **Polyolefin fibers**
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PROC (Process)
 (ethylene, Spectra 900 and Spectra 1000; morphol. of acid-etched
 gel-spun polyethylene **fibers**)
 IT Polymer morphology
 (surface, morphol. of acid-etched gel-spun polyethylene
fibers)
 IT 9002-88-4, Polyethylene
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PROC (Process)
 (**fibers**, Spectra 900 and Spectra 1000; morphol. of
 acid-etched gel-spun polyethylene **fibers**)
 IT 7697-37-2, Nitric acid, uses
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or
 chemical process); PROC (Process); USES (Uses)
 (morphol. of acid-etched gel-spun polyethylene **fibers**)

L133 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1995:617867 Document No. 123:58736 Cardable hydrophobic
polyolefin fibers, process for their manufacture
 and **nonwoven** textiles from. Thomsen, Lydia Dahl; Marcher,
 Bjorn; Hansen, Pia Holm (Danaklon A/S, Den.). PCT Int. Appl. WO
 9420664 A1 19940915, 48 pp. DESIGNATED STATES: W: AU, BR, CA, CN,
 DE, DK, JP, KR, RU, UA, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR,
 IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.
 APPLICATION: WO 1994-DK91 19940304. PRIORITY: DK 1993-248 19930305.

- AB A process for producing cardable, hydrophobic **polyolefin**
 -based staple **fibers**, comprising applying to spun
filaments a first **spin finish** comprising
 an antistatic agent, in particular a neutralized phosphoric acid
 ester, stretching the **filaments**, applying to the stretched
filaments a second **spin finish** in the
 form of a **dispersion** comprising an antistatic agent, a
 natural or synthetic hydrocarbon wax with a m.p. 40-120°, or
 a wax mixture comprising ≥ 1 hydrocarbon wax and having a m.p.

40-120°, and optionally a polydiorganosiloxane, eg., di-Me siloxane, crimping the filaments, drying the filaments, and cutting the filaments to obtain staple fibers. The process allows the production of fibers that have controlled friction and hydrophobic properties and that can be carded at high speeds giving thermally bonded nonwovens having excellent hydrophobic characteristics. The nonwovens can function as liquid barriers in disposable diapers, feminine hygiene products, and medical gowns or drapes (no data).

IT 9002-88-4, Polyethylene
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (fiber; cardable, hydrophobic and nonwoven textiles from)

RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
 CMF C2 H4

H₂C=CH₂

IC ICM D06M013-292
 ICS D06M015-227

CC 40-7 (Textiles and Fibers)
 Section cross-reference(s): 63

ST cardable hydrophobic polyolefin fiber finish;
 polypropylene cardable hydrophobic fiber finish;
 polyethylene cardable hydrophobic fiber finish; antistatic
 cardable hydrophobic polyolefin fiber; wax
 cardable hydrophobic polyolefin fiber;
 siloxane cardable hydrophobic polyolefin
 fiber

IT Antistatic agents
 (cardable hydrophobic polyolefin fibers,
 process for their manufacture and nonwoven textiles from)

IT Paraffin waxes and Hydrocarbon waxes, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (cardable hydrophobic polyolefin fibers,
 process for their manufacture and nonwoven textiles from)

IT Polypropene fibers, uses
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

- (cardable, hydrophobic and nonwoven textiles from)
- IT **Polyolefin fibers**
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (process for manufacture of cardable, hydrophobic and nonwoven textiles from)
- IT **Polyolefin fibers**
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (ethylene, cardable, hydrophobic and nonwoven textiles from)
- IT 164715-25-7, Silastol F 203
 RL: NUU (Other use, unclassified); USES (Uses)
 (antistatic agent; for cardable hydrophobic polyolefin fibers, process for their manufacture and nonwoven textiles from)
- IT 9002-88-4, Polyethylene 25085-53-4, Isotactic polypropylene
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (fiber; cardable, hydrophobic and nonwoven textiles from)
- IT 7664-38-2D, Phosphoric acid, C16-18 alkyl esters 9016-00-6, Dimethylsilanediol homopolymer, sru 31900-57-9, Dimethylsilanediol homopolymer
 RL: NUU (Other use, unclassified); USES (Uses)
 (for cardable hydrophobic polyolefin fibers, process for their manufacture and nonwoven textiles from)
- L133 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1995:220754 Document No. 122:216487 Polyether-containing fiber finishes. Doi, Tetsuo; Tatemoto, Shinichi; Kimura, Tsutomu; Munekyo, Takeshi (Matsumoto Yushi Seiyaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06228885 A2 19940816 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-14605 19930201.
- AB The fiber adhesion and fiber-fiber abrasion resistance are improved by addition of (fatty acid-end-capped) polyethers with mol. weight 1000-20,000 consisting of random or block adducts of C4-24 alkylamines or C4-44 dialkylamines and C2-4 alkylene oxides to finishes. Thus, a composition of isooctyl palmitate 50, dioleoyl adipate 10, polyoxyethylene oleyl ether 6, ethoxylated hardened castor oil 10, oleic acid diethanolamide 5, Na alkylsulfonate 5, KOAc 1, and laurylamine-ethylene oxide-propylene oxide adduct (mol. weight 5000) 8 parts showed phase inversion viscosity 1000 cP and its 10% aqueous emulsion adhered strongly (16.8% as emulsion pickup) to polyester filaments with good fiber-fiber abrasion resistance (450 rubbing strokes until

- breakage).
- IC ICM D06M015-53
- CC 40-7 (Textiles and Fibers)
- ST polyether **fiber** finish multifilament manuf; high speed
spinning fiber finish; alkoxyated
 alkylamine **fiber** finish; abrasion resistance polyether
fiber finish; laurylamine polyoxyalkylene ether finish
 polyester **fiber**
- IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (amine ethers; **fiber** finishes containing (fatty
 acid-terminated) polyoxyalkylated aliphatic amines)
- IT Polyester **fibers**, miscellaneous
 RL: MSC (Miscellaneous)
 (**fiber** finishes containing (fatty acid-terminated)
 polyoxyalkylated aliphatic amines)
- IT Synthetic **fibers**, polymeric
 RL: MSC (Miscellaneous)
 (multifilaments; **fiber** finishes containing (fatty
 acid-terminated) polyoxyalkylated aliphatic amines)
- IT Amines, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (aliphatic, alkoxyated; **fiber** finishes containing (fatty
 acid-terminated) polyoxyalkylated aliphatic amines)
- IT Fatty acids, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (esters, with alkoxyated amines; **fiber** finishes containing
 (fatty acid-terminated) polyoxyalkylated aliphatic amines)
- IT 82497-16-3 84931-84-0 162031-77-8 162031-99-4 162032-17-9
 162032-23-7, Ethylene oxide-**propylene** oxide
 copolymer ether with distearylamine
 RL: MOA (Modifier or additive use); USES (Uses)
 (**fiber** finishes containing (fatty acid-terminated)
 polyoxyalkylated aliphatic amines)
- IT 25038-59-9, Poly(ethylene terephthalate), miscellaneous
 RL: MSC (Miscellaneous)
 (**filaments**; **fiber** finishes containing (fatty
 acid-terminated) polyoxyalkylated aliphatic amines)
- L133 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
- 1995:28115 Document No. 122:108475 Polybutylene monofilaments. I:
 Preparation and properties. Shaw, J. P.; Gilbert, M. (Inst. Polymer
 Technol. Mater. Eng., Loughborough Univ. Technol.,
 Loughborough/Leicestershire, LE11 3TU, UK). Plastics, Rubber and
 Composites Processing and Applications, 22(1), 9-27 (English) 1994.
 CODEN: PRPAEP. ISSN: 0959-8111.
- AB The effect of processing variables, i.e., cooling water temperature,
 haul-off rate, and screw speed, on the properties of monofilaments

produced from 8 grades of 1-butene polymers was studied. The crystallinity and birefringence of the monofilaments were measured, and wide-angle x-ray diffraction was used to indicate the extent of crystallite orientation. Tensile properties and elasticity were also measured. Except for low crystallinity grades and a highly nucleated variant, crystallinity increased with increasing water bath temperature, which resulted in increased modulus and elasticity. Break strain and break stress were reduced. For most samples, birefringence was almost independent of bath temperature, although increases with temperature were observed for three grades. Over a wide draw-ratio range, orientation behavior was shown to be complex and dependent on grade. Increased draw ratio generally increased break stress and modulus and decreased break strain. Stress at break was related to birefringence, although the nature of this relationship varied. Highly elastic materials showing up to 90% recovery were produced for certain grades by using appropriate processing conditions. High elasticity was associated with the combination of a highly developed crystalline phase, a high amorphous orientation, and a moderate crystalline orientation.

IT 9002-88-4P, Polyethylene
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (butene-ethylene copolymer blends, fiber, monofilament; effect of melt spinning conditions on properties of)

RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
 CMF C2 H4

$\text{H}_2\text{C}=\text{CH}_2$

CC 40-2 (Textiles and Fibers)
 ST polybutene monofilament extrusion; tensile property polybutene fiber; crystallinity polybutene fiber; birefringence polybutene fiber; elasticity polybutene fiber; melt spinning butene polymer fiber
 IT Polypropene fibers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (composite with butene copolymer, monofilament; effect of melt

- spinning conditions on properties of)
- IT **Polyolefin fibers**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (butene, monofilament; effect of melt spinning conditions on
 properties of)
- IT **Polyolefin fibers**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (butene-ethylene, monofilament; effect of melt spinning
 conditions on properties of)
- IT **Polyolefin fibers**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (ethylene, composite with butene copolymer, monofilament; effect
 of melt spinning conditions on properties of)
- IT **9002-88-4P, Polyethylene 9003-07-0P, Polypropylene**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (butene-ethylene copolymer blends, fiber,
 monofilament; effect of melt spinning conditions on properties
 of)
- IT 9003-28-5P, Poly(1-butene)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (fiber, monofilament; effect of melt spinning
 conditions on properties of)

L133 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1994:325703 Document No. 120:325703 Finish composition for
fibers. Barsotti, Giampiero (Moplefan S.p.A., Italy). Eur.
 Pat. Appl. EP 576896 A2 19940105, 4 pp. DESIGNATED STATES: R: AT,
 BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE.
 (English). CODEN: EPXXDW. APPLICATION: EP 1993-109508 19930611.
 PRIORITY: IT 1992-MI1625 19920703.

AB Title finish composition, especially for **polyolefin fibers**,
 comprises, sep. or as mixture, a fatty acid-polyalkyleneamine
 condensation product quaternized with a chlorohydrin-polyethylene
 glycol condensation product and a hydrogenated fatty
 acid-aminoalkylalkanamine condensation product neutralized with an
 α -hydroxycarboxylic acid, and containing an ethoxylated fatty alc.
 emulsifier. This composition gives good processability (antistatic
 effect) and high hydrophobicity to the **fibers** and good
 adhesion of adhesive labels to the **nonwoven fabric**
 articles produced from the treated **fibers**.

ICM D06M013-46

ICS D06M013-402

CC 40-7 (Textiles and Fibers)

- ST polyolefin fiber spin finish
; polyalkylenamine fatty acid spin finish;
propylene fiber spin finish;
aminoalkylalkanolamine fatty acid spin finish;
hydroxycarboxylic acid spin finish; alc fatty
ethoxylated spin finish; antistatic
polyolefin fiber spin finish
- IT Polyolefin fibers
Polypropene fibers, miscellaneous
RL: USES (Uses)
(finish composition for, with good processability and high
hydrophobicity)
- IT Alcohols, compounds
RL: USES (Uses)
(amino, reaction products, with fatty acids, finish composition, for
polypropylene fibers, with good processability
and high hydrophobicity)
- IT Alcohols, uses
RL: USES (Uses)
(carboxy, finish composition, for polypropylene
fibers, with good processability and high hydrophobicity)
- IT Quaternary ammonium compounds, uses
RL: USES (Uses)
(fatty amido, finish composition, for polypropylene
fibers, with good processability and high hydrophobicity)
- IT Amides, compounds
RL: USES (Uses)
(fatty, quaternized, finish composition, for polypropylene
fibers, with good processability and high hydrophobicity)
- IT Tallow
RL: USES (Uses)
(hydrogenated, reaction products, with aminoethanolamine, finish
composition, for polypropylene fibers, with good
processability and high hydrophobicity)
- IT Carboxylic acids, uses
RL: USES (Uses)
(hydroxy, finish composition, for polypropylene
fibers, with good processability and high hydrophobicity)
- IT Polyamines
RL: USES (Uses)
(polyalkylene-, reaction products, with fatty acids, quaternized,
finish composition, for polypropylene fibers, with
good processability and high hydrophobicity)
- IT 9003-07-0, Polypropylene
RL: USES (Uses)
(fiber, finish composition for, with good processability and
high hydrophobicity)
- IT 57-11-4D, Stearic acid, reaction products with

tetraethylenepentamine 79-14-1, Glycolic acid, uses 109-84-2D, Aminoethanolamine, reaction products with hydrogenated tallow 112-57-2D, Tetraethylenepentamine, reaction products with stearic acid 25322-68-3D, Polyethylene glycol, fatty alkyl ethers 37569-89-4D, Polyethylene glycol bischlorohydrin ether, reaction products with fatty amides
 RL: USES (Uses)

(finish composition, for **polypropylene fibers**,
 with good processability and high hydrophobicity)

L133 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1994:220244 Document No. 120:220244 Analysis of ballistically caused damage in some test panel **fibers**. Cohen, S. H.; Prosser, R. A.; King, A.; Desper, C. R. (Army Matick Res. Dev. Eng. Cent., MA, USA). Report, NATICK/TR-92/032; Order No. AD-A252220, 51 pp. Avail. NTIS From: Gov. Rep. Announce. Index (U. S.) 1992, 92(20), Abstr. No. 257,054 (English) 1992.

AB Microscopic and **x-ray diffraction**

methods to analyze ballistically induced damage to **fibers** and yarns within multilayer panels of Spectra-900 and Spectra-1000, polyethylene, and Kevlar are described. Microscopic evaluation by SEM showed heat-induced damage in **fibers** several layers beyond the layer in which the .22-caliber projectile came to rest, and **x-ray diffraction** showed **crystallinity** differences in **fibers** close to and at some distance from the point of ballistic impact. Polarization microscopy was used to corroborate the **x-ray diffraction** findings, by elucidating differences in birefringence within the **fibers**.

IT 9002-88-4, Polyethylene

RL: PRP (Properties)

(**fibers**, ballistically caused damage in panels of,
 testing of)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4

$\text{H}_2\text{C}=\text{CH}_2$

CC 40-4 (Textiles and Fibers)

ST ballistic damage test panel **fiber**; polyethylene
fiber ballistic damage panel; polyester **fiber**

- ballistic damage panel; aramid **fiber** ballistic damage panel
- IT Testing of materials
(ballistic, of **fiber** panels)
- IT Polyester **fibers**, properties
RL: PRP (Properties)
(ballistically caused damage in panels of, testing of)
- IT Polyamide **fibers**, properties
RL: PRP (Properties)
(aramid, ballistically caused damage in panels of Kevlar, testing of)
- IT Polyolefin **fibers**
RL: PRP (Properties)
(ethylene, ballistically caused damage in panels of Spectra 900, testing of)
- IT 9002-88-4, Polyethylene
RL: PRP (Properties)
(**fibers**, ballistically caused damage in panels of, testing of)
- L133 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1994:193943 Document No. 120:193943. Process for high-speed spinning of polyester **fibers** with reduced neps and yarn breakage. Makino, Shoji; Taniguchi, Katsutoshi (Teijin Ltd., Japan). PCT Int. Appl. WO 9320268 A1 19931014, 21 pp. DESIGNATED STATES: W: KR, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1993-JP398 19930330. PRIORITY: JP 1992-79771 19920401.
- AB In the title process, spun polyester **fibers** are coated with aqueous lubricant emulsions containing mainly monobasic acid esters having average mol. weight 300-500, 1-15% polyoxyalkylene glycol copolymers having average mol. weight ≥ 1000 , and 0.1-3% organic siloxane compds. and/or fluoroalkyl group-containing compds. and wound at ≥ 3000 m/min. PET was melt spun, coated with 10% emulsion containing octyl stearate 60, ethylene oxide-polytetramethylene glycol copolymer 5, and ethylene oxide-modified silicone 2 parts to effective component content 0.4%, taken up at 4000 m/min, and drawn to give **fibers** with low number of neps and yarn breaks.
- IC ICM D01F006-62
ICS D01F011-08; D06M015-53; D06M013-224; D06M013-50; D06M013-08
- ICI D06M101-32
- CC 40-2 (Textiles and Fibers)
- ST polyester **fiber** high speed spinning; octyl stearate lubricant finish polyester spinning; polyoxyalkylene lubricant finish polyester spinning; silicone lubricant finish polyester spinning; lubricant finish polyester high speed spinning

- IT Lubricants
(finishes, containing monobasic acid esters, polyoxyalkylenes and silicones and/or fluoroalkyl group-containing compds., for high-speed spinning of polyester fibers with reduced neps)
- IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Polyester fibers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(spinning of, at high speeds, lubricant finishes containing monobasic acid esters, polyoxyalkylenes and silicones and/or fluoroalkyl group-containing compds. for)
- IT Siloxanes and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(amino-containing, lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Siloxanes and Silicones, compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated, monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Acids, compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(monobasic, esters, lubricant finishes containing, for high-speed spinning of polyester fibers)
- IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(perfluoroalkyl, monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Siloxanes and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-, lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Siloxanes and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-, lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(siloxane-, lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)
- IT 25038-59-9P, Poly(ethylene terephthalate), preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(fiber, high-speed spinning of, with reduced neps and yarn breakage, lubricant finishes for)
- IT 109-36-4, Octyl stearate 2306-92-5, Octyl decanoate 3687-45-4,

Oleyl oleate 13945-76-1, Lauryl laurate 16958-85-3, Octyl palmitate 22047-49-0, Octyl stearate 70364-64-6, Isotridecyl palmitate 72576-78-4

RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)

IT 9003-11-6, Ethylene oxide-propylene oxide copolymer 25322-68-3D, Polyethylene glycol, ethers with silicones 27637-03-2

RL: TEM (Technical or engineered material use); USES (Uses)
(monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester fibers with reduced neps)

L133 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1993:651245 Document No. 119:251245 Polyethylene fibers
-polyethylene matrix composites: preparation and physical properties. Teishev, Albert; Incardona, Silvia; Migliaresi, Claudio; Marom, Gad (Grad. Sch. Appl. Sci. Technol., Hebrew Univ., Jerusalem, 91904, Israel). Journal of Applied Polymer Science, 50(3), 503-12 (English) 1993. CODEN: JAPNAB. ISSN: 0021-8995.

AB Drawing on the difference in m.ps. of ultrahigh-modulus polyethylene (I) fiber (150°) and HDPE matrix (130°), single-polymer composites were fabricated under various processing conditions. Because of the chemical similarity of the composite components, good bonding at the fiber-matrix interface could be expected. The matrix, the fiber, and unidirectional composite laminate were studied using thermomech. and DSC analyses, a hot-stage crystallization unit attached to a polarizing microscope, and a universal tensile testing machine. The thermomech. anal. showed neg. thermal expansion of the fiber over the complete temperature range of the experiment. Three regimes of contraction according to the values of the thermal expansion coefficient were detected. DSC analyses of either the fiber or the composite specimens did not show any appreciable changes after various thermal treatments. They also showed no evidence of fiber relaxation during manufacture, probably because of the pressure-related transverse constraint. The tensile strength and modulus values of the composite appeared to be fairly high and close to those reported for other composites reinforced with I fibers. A study of the matrix microstructure did not give any proof of transcryst. growth at the fiber-matrix interface even for chemical or plasma surface-treated fibers.

IT 9002-88-4P, Polyethylene

RL: SPN (Synthetic preparation); PREP (Preparation)
(fiber-matrix composites, preparation and properties of)

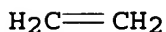
RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



CC 37-5 (Plastics Manufacture and Processing)
ST polyethylene fiber matrix composite; expansion contraction
polyethylene composite; strength polyethylene fiber matrix
composite
IT **Crystallinity**
(of polyethylene fiber-matrix composites, properties in
relation to)
IT **Polyolefin fibers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(ethylene, HDPE composites, preparation and properties of)
IT **9002-88-4P, Polyethylene**
RL: SPN (Synthetic preparation); PREP (Preparation)
(fiber-matrix composites, preparation and properties of)

L133 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1993:605418 Document No. 119:205418 Finish for textile fibers
. Petrea, Randy Dell; Schuette, Robert Louis (Milliken Research
Corp., USA). Eur. Pat. Appl. EP 547846 A1 19930623, 11 pp.
DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL. (English). CODEN:
EPXXDW. APPLICATION: EP 1992-311346 19921211. PRIORITY: US
1991-806990 19911213.

AB Title finish comprises poly- α -olefins
70-95, an emulsifier selected from ethoxylated C12-36 branched
alcs., alkoxylated ≥ 3 OH group containing polyhydric alcs. which
are esterified with C12-36 fatty acids, and alkoxylated glycerol
esters of C12-36 fatty acids having ≥ 1 OH group 5-30, ionic
emulsifiers ≤ 10 , and antisoiling additive ≤ 5 parts.
These compns. are used as spin finishes for
synthetic fibers, especially elastomeric polyurethanes,
polyesters, and polyamides. A composition containing of a 4 cSt poly(
 α -olefin) 80, ethoxylated 2-octyldodecanol (7
EO) 20, C12-15 5 ethylene oxide phosphate 5.3, and ethoxylated
castor oil 4.5 g was prepared and 7.9 g H2O added to provide a clear
stable mixture This composition on 70/34 polyester had fiber/
fiber hydrodynamic friction 0.57 and boundary
kinetic fiber/fiber friction 0.14.

IC ICM D06M013-03

ICS D06M015-227; D06M013-17; D06M013-165; D06M013-224

CC 40-7 (Textiles and Fibers)

- ST spin finish polyolefin synthetic
fiber; alkoxylated alc spin finish;
polyhydric alc alkoxylated spin finish; glycerol
ester spin finish
- IT Emulsifying agents
(in manufacture of spin finishes for synthetic
fibers)
- IT Polyamide fibers, miscellaneous
Polyester fibers, miscellaneous
Spandex fibers
RL: MSC (Miscellaneous)
(spin finishes for)
- IT Fatty acids, esters
RL: USES (Uses)
(C12-36, esters, with polyhydric alcs., ethoxylated, in manufacture of
spin finishes for synthetic fibers)
- IT Alcohols, compounds
RL: USES (Uses)
(C12-36, ethoxylated, in manufacture of spin
finishes for synthetic fibers)
- IT Castor oil
Glycerides, compounds
RL: USES (Uses)
(ethoxylated, in manufacture of spin finishes for
synthetic fibers)
- IT Alkenes, polymers
RL: USES (Uses)
(α -, polymers, oligomers, spin finish
comps. for synthetic fibers containing)
- IT 9003-27-4, Tebeflex 200 9056-42-2D, C12-15-alkyl ethers
32128-65-7 150825-14-2
RL: USES (Uses)
(in manufacture of spin finishes for synthetic
fibers)
- IT 872-05-9, 1-Decene 1120-36-1, 1-Tetradecene 25067-08-7,
1-Dodecene homopolymer 25068-25-1, 1-Octene homopolymer
RL: USES (Uses)
(oligomers, in manufacture of spin finishes for
synthetic fibers)

L133 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1990:22298 Document No. 112:22298 Spinning finish
for polypropylene and polyamide fibers for
improved processability. Svoboda, Karol; Mikolaj, Dusan; Babjak,
Jan; Simo, Rudolf; Nemeth, Ladislav (Czech.). Czech. CS 260758 B1
19890515, 5 pp. (Slovak). CODEN: CZXXA9. APPLICATION: CS
1985-5353 19850719.

AB An 1-25% aqueous dispersion of tech. olefin

ethoxylated with 10-30 mol oxirane is applied to **polypropylene** or polyamide fibers before the spinneret as a finish for effectively reducing the friction between fibers and metal or corundum and improving coherence of a tow during winding, stretching, texturing, and other operations. The content of finish on fibers is 0.3-2.2%.

IC ICM D06M015-263

CC 40-7 (Textiles and Fibers)

ST **olefin** ethoxylated finish **polypropylene** fiber; polyamide fiber finish ethoxylated **olefin**; friction redn **polypropylene** fiber; processability mech polypropene fiber

IT Lubricants

(ethoxylated olein, for finishing of polyamide or polypropene fibers for improved processability)

IT Polyamide fibers, uses and miscellaneous
Polypropene fibers, uses and miscellaneous

RL: USES (Uses)

(spinning finishes for, ethoxylated olein as, for reduced friction and improved processability)

IT 68958-64-5

RL: USES (Uses)

(finishes, for polyamide or **polypropylene** fibers, for reduced friction)

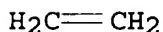
L133 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1987:139494 Document No. 106:139494 Polyester molding compositions. Okamoto, Takashi; Ohama, Fumio (Unitika Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61241353 A2 19861027 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-85167 19850418.

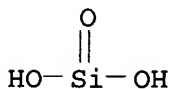
AB The title compns., having low-temperature impact strength, heat resistance, and good processability, comprise a poly(ethylene terephthalate) (I)-polyarylate mixture 100, an inorg. nucleating agent having average particle diameter $\leq 50 \mu$ and/or metal carboxylate-containing organic compound (or polymer) 0.05-10, a **polyolefin** or elastomer modified with 0.001-10 mol % alicyclic carboxylic acid or its derivative 3-30, 80-99:1-20:0-19 α -**olefin**-glycidyl (meth)acrylate-vinyl acetate copolymer 1-30, and reinforcing fibers 0-150 parts. Thus, a mixture of 70% I (intrinsic viscosity 0.68; 6:4 PhOH-C₂H₂Cl₄; 0.5%; 20°) and 30% polyarylate (prepared from 1:1 terephthalic acid-isophthalic acid mixture and bisphenol A; reduced viscosity 0.65; 25°; 1 g/dL) 100, Surlyn 1555 (II) 3, modified copolymer (III) (prepared from 72.0:28.0 ethylene-propene rubber 1000, endo-bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride 3, and tert-Bu₂O₂ 1 part) 10, and 92:8 ethylene-glycidyl methacrylate copolymer 5 parts was molded at

260° with molding cycle 20 s to give a molding having Izod impact strength (kg-cm/cm) 38 at room temperature and 23 at -30° and heat-distortion temperature 85°, vs. 15, 6, and 70, resp., without II and III.

IT 9002-88-4D, Polyethylene, carboxylated
 RL: USES (Uses)
 (aromatic polyester blends containing, heat- and impact-resistant)
 RN 9002-88-4 HCAPLUS
 CN Ethene, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 74-85-1
 CMF C2 H4



IT 14807-96-6, Talc, uses and miscellaneous
 RL: USES (Uses)
 (nucleating agents, aromatic polyester blends containing)
 RN 14807-96-6 HCAPLUS
 CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
 ICS C08K003-00; C08K005-09; C08K013-04
 ICI C08L067-02, C08L023-26, C08L023-02; C08L067-02, C08L023-26, C08L063-00; C08K013-04, C08K007-14, C08K003-00; C08K013-04, C08K007-14, C08K005-09
 CC 38-3 (Plastics Fabrication and Uses)
 ST polyarylate blend polyethylene terephthalate; polyester blend molding; nucleating agent polyester blend; ionomer polyester blend; bicycloheptenedicarboxylic polyolefin polyester blend; ethylene copolymer polyester blend; glycidyl acrylate copolymer blend; vinyl acetate copolymer blend; impact strength polyester blend; heat resistance polyester

- blend; bisphenol benzenedicarboxylic polyester blend
- IT Kaolin, uses and miscellaneous
Mica-group minerals, uses and miscellaneous
RL: USES (Uses)
(nucleating agents, aromatic polyester blends containing)
- IT Crystal nucleation
(agents, carboxylate compds., aromatic polyester blends containing)
- IT 129-64-6D, reaction products with olefin polymers
9002-88-4D, Polyethylene, carboxylated 9003-07-0D,
Polypropylene, carboxylated 24937-78-8D, Ethylene-vinyl
acetate copolymer, carboxylated 25038-59-9, Poly(ethylene
terephthalate), uses and miscellaneous 25087-34-7D,
1-Butene-ethylene copolymer, carboxylated 26061-90-5,
Ethylene-glycidyl methacrylate copolymer
RL: USES (Uses)
(aromatic polyester blends containing, heat- and impact-resistant)
- IT 7631-86-9, Silica, uses and miscellaneous 14807-96-6,
Talc, uses and miscellaneous
RL: USES (Uses)
(nucleating agents, aromatic polyester blends containing)

L133 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1986:462170 Document No. 105:62170 Blends of fluoroalkylguanidines
with fluorinated polyoxyalkylenes. Chang, John C.; Williams,
Kathryn L. (Minnesota Mining and Manufacturing Co., USA). U.S. US
4565641 A 19860121, 13 pp. Cont.-in-part of U.S. Ser. No. 440,317,
abandoned. (English). CODEN: USXXAM. APPLICATION: US 1984-633977
19840724. PRIORITY: US 1982-440317 19821109.

AB Mixts. of (fluoroalkyl)guanidines and polyoxyalkylenes bearing
fluoroalkyl groups are useful in organic solvents or as aqueous
dispersions in oil- and waterproofing fibers.
Thus, a neat oil-spin finish containing 13.1%
RZ[NHC(NBu₂):NZ]2R [R = C₈F₁₇SO₂N(Et)CH₂CH₂OCO₂NH, Z = CH₂(C₆H₄)₂],
5.0% acrylic polymer [from C₈F₁₇SO₂N(Bu)CH₂CH₂OCOCH:CH₂ and
polyethylene-polypropylene glycol mono- and diacrylate]
46.2% coconut oil-based lubricant, and 35.7% Bu(OCH₂CH₂)₂OH was
coated (425 ppm F) on nylon fibers which were spun to a
carpet retaining 81% F after dyeing and having good resistance to
oil, water, and walk-on soiling.

IC ICM D06M013-08

INCL 252008750

CC 40-9 (Textiles)

ST fluoropolymer finish fiber; waterproofing finish
fiber; soilproofing finish fiber; oilproofing
finish fiber; guanidine fluoroalkyl finish fiber

- ; acrylate copolymer finish **fiber**; polyoxyalkylene fluoropolymer finish **fiber**; nylon carpet finish
- IT Carpets
Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(water- and oilproofing agents for, (fluoroalkyl)guanidines and fluorinated polyoxyalkylenes as)
- L133 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1985:488990 Document No. 103:88990 **Spin finish**
compositions. Anon. (UK). Research Disclosure, 253, 250 (No. 25342) (English) 1985. RD 253042 19850510. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1985-253042 19850510.
- AB The addition of 0.5-5 weight% of alkyl glycidyl esters of polycarboxylic acid or anhydride-containing adducts of **olefinically** unsatd. natural oils and of polycarboxylic acid- or anhydride-containing **copolymers** with α -**olefin** compds. to **spin finish** compns. for polyamide or polyester yarns comprising a glycerol triester, a sulfated glycerol triester, a salt of a partial phosphate ester, and a salt of a higher fatty acid is disclosed. Alternatively, use may be made of the alkyl alkoxyalkyl esters and mixed esters of copolymers of maleic anhydride with C2-30 (preferably C12-24) α -**olefins**.
- CC 40-7 (Textiles)
- ST **spin finish** polyamide **fiber**; polyester **fiber spin finish**; polycarboxylic acid **spin finish fiber**; **olefin copolymer spin finish fiber**; maleic anhydride polymer **spin finish**; glycidyl ester **spin finish fiber**
- IT Polyamide **fibers**, uses and miscellaneous
Polyester **fibers**, uses and miscellaneous
RL: USES (Uses)
(**spin finish** compns. for)
- IT Alkenes, polymers
RL: USES (Uses)
(C12-24, polymers with maleic anhydride, esters, **spin finish** compns., for polyamide and polyester **fibers**)
- IT Carboxylic acids, compounds
RL: USES (Uses)
(poly-, adducts with natural oils, alkyl glycidyl esters, **spin finish** compns., for polyamide and polyester **fibers**)
- IT 108-31-6D, polymers with α -**olefins**, esters
RL: USES (Uses)

(spin finish compns., for polyamide and polyester fibers)

L133 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1985:221679 Document No. 102:221679 Fire-resistant polyester molding compositions. (Unitika Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60015451 A2 19850126 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-123597 19830706.

AB A fire-resistant, glass fiber-reinforced polyester composition, giving a dimensionally stable product at a fast molding cycle, comprises a polyester with $\geq 80\%$ ethylene terephthalate repeating units 100, a nucleating agent 0.1-5, a nucleating aid 0.5-10, and an organic halogenated compound 10-30 parts, in addition to an Sb-containing compound to give 0.2-1:1 Sb compound-halogen compound ratio, a glass fiber at 10-15 parts/composition, and an inorg. filler at 15-45 parts/composition. Thus, a pelletized blend comprising poly(ethylene terephthalate) [25038-59-9] 10, Himilan 1555 (ethylene-methacrylic acid copolymer Na salt) [25608-26-8] nucleating agent 4, 72:28 ethylene-propylene copolymer modified with endo-bicyclo-[2,2,1]-5-heptene-2,3-dicarboxylic anhydride (nucleating aid) 5, GLC 935 P [poly(dibromophenylene oxide)] [74082-93-2] 16, and Sb₂O₃ 5 parts, in addition to 20% powdered talc and 10% glass fiber (average fiber length 0.325 mm), was injected at 600-700 kg/cm² and 240-250° into a mold at 100-105° at molding time 20 s to give a sample exhibiting crystallization temperature 116.2°, heat-distortion temperature 207°, flexural strength 1250 kg/cm², flexural modulus 66,000 kg/cm², warpage (sample thickness 1.6 mm, after heat treatment at 130° for 2 h) 5.26-5.50 mm, and flame time (UL 94) <10 s, with no blooming of fire retardants.

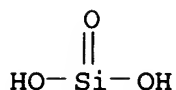
IT 14807-96-6, uses and miscellaneous

RL: USES (Uses)

(fillers, for glass fiber-reinforced polyesters, with low molding warpage)

RN 14807-96-6 HCAPLUS

CN Talc (Mg₃H₂(SiO₃)₄) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC ICM C08L067-02
ICS C08K013-04
ICI C08K013-04, C08K007-14, C08K003-00, C08K005-00
CC 37-6 (Plastics Manufacture and Processing)
ST polyethylene terephthalate glass fiber reinforcement;
ionomer nucleating agent polyester molding;
bicycloheptenedicarboxylic anhydride graft polyolefin;
polydibromophenylene oxide fireproofing agent polyester;
talc filler polyester molding
IT Crystal nucleation
(agents, ionomers and carboxy-grafted
polyolefins, for glass fiber-polyester
moldings)
IT Polyoxyphenylenes
RL: USES (Uses)
(brominated, fireproofing agents, for glass fiber
-reinforced polyesters, with low blooming)
IT Ionomers
RL: USES (Uses)
(ethylene-methacrylic acid copolymer sodium salts,
nucleating agents, for glass fiber
-reinforced polyesters moldable at fast molding cycles, with low
product warpage)
IT Mica-group minerals, uses and miscellaneous
RL: USES (Uses)
(fillers, for glass fiber-reinforced polyesters, with
low molding warpage)
IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(glass fiber-reinforced, fire-resistant, moldable at
fast molding cycles, with low product warpage)
IT Fireproofing agents
(poly(dibromophenylene oxide), for glass fiber
-reinforced polyester moldings, with low blooming)
IT 1344-95-2 14807-96-6, uses and miscellaneous
RL: USES (Uses)
(fillers, for glass fiber-reinforced polyesters, with
low molding warpage)
IT 74082-93-2
RL: USES (Uses)
(fireproofing agents, for glass fiber-reinforced
polyester moldings, with low blooming)
IT 9016-88-0 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(glass fiber-reinforced, fire-resistant, moldable at
fast molding cycles, with low product warpage)
IT 25608-26-8

RL: USES (Uses)

(nucleating agents, for glass fiber
-reinforced polyesters, moldable at fast molding cycles, with low
product warpage)

L133 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1984:211031 Document No. 100:211031 Polyester molding compositions.

(Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai

Tokkyo Koho JP 58187449 A2 19831101 Showa, 5 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1982-70657 19820427.

AB Polyester molding compns. containing inorg. reinforcing fillers 5-150,
crystallization accelerators (C15-400 fatty acid salts, silicates,
or (meth)acrylic acid-olefin copolymer Na or K
salts) 0.1-10, triaryl phosphates 0.5-10, and tris(2,4-di-tert-
butylphenyl) phosphite (I) [31570-04-4] or trilauryl
trithiophosphite [1656-63-9] 0.001-10 phr have good thermal
stability and crystallinity. Thus, 185 g EtCO₂H was alkylated with
167.5 g C_{≥30} 1-alkene mixture (peroxide catalyzed) to give a
fatty acid which was converted to its Na salt (II). An injection
molding composition was prepared from poly(ethylene terephthalate)
[25038-59-9] 66.5, glass fibers 30, II 1.5, tricresyl
phosphate [1330-78-5] 1.5, and I 0.5 part.

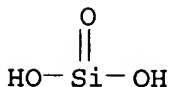
IT 14807-96-6, uses and miscellaneous

RL: USES (Uses)

(nucleating agents, for polyester molding
compns.)

RN 14807-96-6 HCAPLUS

CN Talc (Mg₃H₂(SiO₃)₄) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC C08L067-02; C08K005-51; C08K007-02; C08K007-16

CC 37-6 (Plastics Manufacture and Processing)

ST polyester molding compn; phosphite ester heat stabilizer; phosphate
ester heat stabilizer; heat stabilizer polyester molding;
nucleating agent polyester molding

IT Crystal nucleation

(agents, for polyester molding compns.)

IT Ionomers

RL: USES (Uses)

(nucleating agents, for polyester molding compns.)

IT Carboxylic acids, compounds
RL: USES (Uses)
(C15-400, salts, nucleating agents, for polyester molding compns.)

IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(molding compns., nucleating agents and heat stabilizers for)

IT 79-09-4D, alkyl derivs., sodium salts 14807-96-6, uses and miscellaneous 25608-26-8
RL: USES (Uses)
(nucleating agents, for polyester molding compns.)

L133 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1984:211030 Document No. 100:211030 Polyester molding compositions.
(Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai
Tokkyo Koho JP 58187448 A2 19831101 Showa, 7 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1982-70656 19820427.

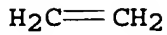
AB The title compns., containing **polyolefins** 0.5-50, crystallization accelerators (C15-400 carboxylic acid salts, **silicates**, or (meth)acrylic acid-olefin **copolymer** salts) 0.1-10, triaryl phosphates 0.5-10, and tris(2,4-di-tert-butylphenyl) phosphite (I) [31570-04-4], trilauryl trithiophosphite [1656-63-9], or 2,2-thiodiethylene bis[3-(3,5-di-tert-4-hydroxyphenyl)propionate] [41484-35-9] 0.001-10 phr have good impact resistance, heat resistance, and crystallinity. Thus, 185 g EtCO₂H was alkylated with 167.5 parts Dialene 30 (C>30 1-alkene mixture) in the presence of a peroxide to give a fatty acid, which was converted to its Na salt (II). An injection molding composition was prepared from poly(ethylene terephthalate) [25038-59-9] 61.5, glass **fibers** 30, polyethylene [9002-88-4] 5, II 1.5, tricresyl phosphate [1330-78-5] 1.5, and I 0.5 part.

IT 9002-88-4 14807-96-6, uses and miscellaneous
RL: USES (Uses)
(nucleating agent, for polyester molding compns.)

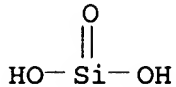
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



RN 14807-96-6 HCAPLUS
 CN Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC C08L067-02; C08K005-51
 ICI C08L067-02, C08L023-08, C08L033-02, C08L051-06
 CC 37-6 (Plastics Manufacture and Processing)
 ST polyester compn injection molding; **nucleating agent** polyester molding; heat stabilizer polyster molding; phosphate heat stabilizer; phosphite heat stabilizer; polyethylene **nucleating agent**
 IT Crystal **nucleation**
 (agents, for polyester molding compns.)
 IT Ionomers
 RL: USES (Uses)
 (**nucleating agent**, for polyester molding compns.)
 IT Carboxylic acids, compounds
 RL: USES (Uses)
 (C15-400, salts, **nucleating agents** for polyester molding compns.)
 IT 25038-59-9, uses and miscellaneous
 RL: USES (Uses)
 (molding compns., **nucleating agents** and stabilizers for)
 IT 79-09-4D, alkyl derivs., sodium salts **9002-88-4**
14807-96-6, uses and miscellaneous 25608-26-8 36704-47-9
 RL: USES (Uses)
 (**nucleating agent**, for polyester molding compns.)

L133 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1984:105053 Document No. 100:105053 Durable antisoiling coatings for textile filaments. Champaneria, Nitin J.; Harper, Lee R.; Hosegood, Edward A. (du Pont de Nemours, E. I., and Co. , USA).
 U.S. US 4388372 A 19830614, 10 pp. Cont.-in-part of U.S. 4,325,857.

(English). CODEN: USXXAM. APPLICATION: US 1982-356716 19820310.
PRIORITY: US 1980-149334 19800513; BR 1981-2732 19810505.

- AB Durable antisoiling compns. for textiles contain perfluoroalkyl esters of citric acid urethanes and reaction products of carboxylated vinyl polymers, epoxy resins, and tertiary amines. The compns. can be applied as **aqueous dispersions** containing nonionic textile lubricants. Thus, nylon 66 carpet yarn was finished with a mixture of polyethylene glycol lubricant containing 4.5% diurethane from F(CF₂)₆-14CH₂CH₂OH triester with citric acid and hexamethylene diisocyanate, and a condensate of Me₂NCH₂CH₂OH, epichlorohydrin-bisphenol A polymer, and Et acrylate-methacrylic acid-styrene polymer. A carpet from this yarn has a soil rating of 4, compared with 6 for an untreated carpet and 3 for a topically treated carpet. A primary **spin finish** for the manufacture of **bulk continuous-filament nylon 66** carpet yarn in a coupled spin-draw-bulk process is prepared by adding 165.4 lbs. of a 99% concentrate of ethylene oxide-propylene oxide copolymer [9003-11-6] to 1310 lbs. water followed by slow addition of 39.4 lbs. 50% **aqueous dispersion** of ethoxylated castor oil, slowly adding with mixing 281 lbs. of a 5.6% dispersion of an acrylic-modified resin, adding 184.9 lbs. of a 51% **aqueous dispersion** of a fluoro ester citric acid urethane, and diluting with water to give a composition with solid content 14.25%. The polyamide yarn was treated with 0.45% finish, drawn, **bulked**, treated with a secondary finish based on coconut oil and ethoxylated castor oil, tufted into a carpet backing, and dyed to give a fabric very resistant to soiling under normal foot traffic.
- IC B32B027-34; B32B027-36; C08L063-00
- INCL 428395000
- CC 40-7 (Textiles)
- IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(aminated, reaction products with carboxylated polymers, in antisoiling compns. for polyamide **fibers**)
- IT Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(antisoiling compns. for)
- IT Lubricants
(for polyamide **fibers**, containing durable antisoiling finishes)
- IT Soilproofing
(of polyamide **fibers**, lubricant finishes containing)
- IT Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(soilproofing composition for carpet yarn from)
- IT 77-92-9D, fluoroalkyl esters, urethanes 108-01-0D, reaction products with epoxy resins and methacrylic acid copolymers

822-06-0D, urethanes with tris(fluoroalkyl) citrates 25035-68-1D,
reaction products with aminated epoxy resins 25068-38-6D, reaction
products with amines and methacrylic acid copolymers

RL: USES (Uses)

(soilproofing finishes containing, for nylon fibers)

L133 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1983:180690 Document No. 98:180690 Poly(ethylene terephthalate)
molding compositions. (Dainippon Ink and Chemicals, Inc., Japan).
Jpn. Kokai Tokkyo Koho JP 57187350 A2 19821118 Showa, 5 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-72246 19810515.

AB Molding compns. comprise poly(ethylene terephthalate) (I)
[25038-59-9] 100, olefin copolymers containing
carboxylic acid metal salts
(for nucleating agents) 0.1-15, aromatic polyester
polyether elastomers (for lowering crystallization beginning temps.) 0.5-25,
and polyfunctional compds. selected from polycarboxylic acid
anhydrides, polyepoxides, and polyisocyanates 0-10 parts. Thus,
test pieces prepared from I 100, Himilan 1601 (ethylene-methacrylic
acid copolymer Na salt) [84683-11-4] 2, Pelprene P70B 10, glass
fibers 20, and wollastonite 80 parts had good surface gloss,
heat distortion temperature 201°, and crystallization beginning temperature
100°, compared with very poor, 64, and 119, resp., for test
pieces prepared from I alone.

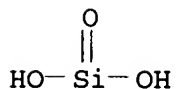
IT 14807-96-6, uses and miscellaneous

RL: USES (Uses)

(fillers, containing glass fibers, for poly(ethylene
terephthalate) containing ethylene-methacrylic acid copolymer sodium
salt and polyester-polyether elastomers)

RN 14807-96-6 HCAPLUS

CN Talc (Mg₃H₂(SiO₃)₄) (9CI) (CA INDEX NAME)



● 3/4 Mg

IC C08L067-02; C08L033-02

ICA C08K005-10; C08K005-29; C08L063-00

CC 38-3 (Plastics Fabrication and Uses)

ST polyethylene terephthalate nucleating agent;
polyether rubber polyester molding; glass fiber polyester
molding; wollastonite polyester molding

- IT Crystal nucleation
(agents, ethylene-methacrylic acid copolymer sodium salts, for poly(ethylene terephthalate) containing polyester-polyether elastomers)
- IT Ionomers
RL: USES (Uses)
(nucleating agents, for poly(ethylene terephthalate) containing polyester-polyether elastomers)
- IT Rubber, synthetic
RL: USES (Uses)
(polyester-polyether, poly(ethylene terephthalate) containing ethylene-methacrylic acid copolymer sodium salt and glass fibers and wollastonite and, for moldings)
- IT 13983-17-0 14807-96-6, uses and miscellaneous
RL: USES (Uses)
(fillers, containing glass fibers, for poly(ethylene terephthalate) containing ethylene-methacrylic acid copolymer sodium salt and polyester-polyether elastomers)
- IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(moldings, containing ethylene-methacrylic acid copolymer sodium salt and polyester-polyether elastomers and glass fibers and wollastonite)
- IT 25608-26-8
RL: USES (Uses)
(nucleating agents, for poly(ethylene terephthalate) containing polyester-polyether elastomers)

L133 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1982:546183 Document No. 97:146183 Lubricant compositions for finishing synthetic fibers. Decker, Quintin William; Marcus, Erich (Union Carbide Corp., USA). Eur. Pat. Appl. EP 54953 A1 19820630, 23 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1981-110657 19811221. PRIORITY: US 1980-219217 19801222.

- AB Spin finishes for synthetic fibers
having good thermal stability and low fume emission contain 50-90% fatty acid ester, triglyceride, polyol alkanoate, or dibasic fatty acid ester and 10-50% surfactant (monoalkyl ether of ethylene oxide-propylene oxide polymer). Thus, polyethylene-polypropylene glycol mono-2-ethylhexyl ether [64366-70-7] [smoke point 200°, volatility 7.2%, thin-film residue on stainless steel 1.6% (removable with hot soapy water)] was mixed in ratio 20:80, 30:70, and 40:60 with coconut oil to give spin finishes for polyester fibers. Aqueous emulsions (10 and 20%) of the finishes were stable for ≥24 h.
- IC D06M013-18; D06M013-16; C10M003-20

CC 40-7 (Textiles)
ST **spin finish fiber**; polyoxyalkylene
finish fiber; surfactant finish fiber; lubricant
finish fiber; coconut oil finish fiber;
polyester fiber **spin finish**
IT Lubricants
(esters, in **spin finishes** for fibers
)
IT Coconut oil
RL: USES (Uses)
(lubricant, in **spin finishes** for
fibers)
IT Surfactants
(polyoxyalkylene ethers, in **spin finishes** for
fibers)
IT Polyester fibers, uses and miscellaneous
Synthetic fibers
RL: USES (Uses)
(**spin finishes** for, lubricant-surfactant
mixts. as)
IT Polyoxyalkylenes
RL: USES (Uses)
(**spin finishes**, containing lubricants, for
polyester fibers)
IT 9038-95-3 37311-00-5 64366-70-7
RL: USES (Uses)
(**spin finishes**, containing lubricants, for
polyester fibers)
IT 126-57-8 31556-45-3
RL: USES (Uses)
(**spin finishes**, containing surfactants, for
polyester fibers)

L133 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1981:67233 Document No. 94:67233 A **spin finish** for
synthetic fibers and methods of lubricating synthetic
yarns with an aqueous emulsion containing this
spin finish. Decker, Quintin William; Marcus,
Erich; Koenig, Harvey Steven (Union Carbide Corp., USA). Eur. Pat.
Appl. EP 17197 19801015, 81 pp. (English). CODEN: EPXXDW.
APPLICATION: EP 1980-101687 19800328.

AB Polyethylene-polypropylene glycol alkylphenyl ether
surfactants display good thermal stability, low fuming
characteristics, and emulsification versatility when used to
formulate **spin finishes** for synthetic
fibers. Thus, treatment of nonylphenol with ethylene oxide
(I) and propylene oxide (II) gave a colorless polyethylene-
polypropylene glycol nonylphenyl ether [9082-01-3] (8 mol I

and 6.5 mol II) having smoke point 201°, volatility 2.4%/h, viscosity 322 and 150 cSt at 25°C and 100°F, resp., sp. gr. 1.023 at 25°, m.p. 7°, and cloud point 22°. The product had excellent heat stability and emulsification properties when tested with coconut oil, trimethylolpropane trispelargonate [126-57-8], and tridecyl stearate [31556-45-3].

- IC C10M003-20; C10M003-22; D06M013-18; D06M013-20
 CC 39-8 (Textiles)
 ST surfactant emulsifier finish synthetic **fiber**; lubricant emulsifier finish synthetic **fiber**; polyethylene **polypropylene** glycol nonylphenyl ether
 IT Coconut oil
 RL: USES (Uses)
 (lubricants, **spin finishes** for synthetic **fibers** containing, low-fuming heat-stable polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)
 IT Emulsifying agents
 Surfactants
 (polyethylene-**polypropylene** glycol alkylphenyl ethers, heat-stable low-fuming, **spin finishes** containing lubricants and, for synthetic **fibers**)
 IT Lubricants
 (**spin finishes** for synthetic **fibers** containing, polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)
 IT Synthetic **fibers**
 RL: USES (Uses)
 (**spin finishes** for, containing lubricants and heat-stable low-fuming polyethylene-**polypropylene** glycol alkylphenyl ether emulsifiers)
 IT 9082-01-3 76483-16-4
 RL: USES (Uses)
 (emulsifiers, heat-stable low-fuming, **spin finishes** containing lubricants and, for synthetic **fibers**)
 IT 126-57-8 31556-45-3
 RL: USES (Uses)
 (lubricants, **spin finishes** for synthetic **fibers** containing, low-fuming heat-stable polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)

L133 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 1977:586014 Document No. 87:186014 Surface coating of polymers.
 Thompson, David Thomas; Jackson, Reginald; Ballard, Denis George
 Harold; Emmerson, James Derek; Morris, Stephen; Margetts, Anthony

James; Gaitskell, John Nigel (Imperial Chemical Industries Ltd., UK). Brit. GB 1473667 19770518, 9 pp. (English). CODEN: BRXXAA.
APPLICATION: GB 1974-10523 19750304.

AB Nylon 66 and poly(ethylene terephthalate) yarns were coated batchwise or continuously with polymers by treating the yarns with a Cr or Zr hydrocarbyl and exposing the treated yarns to monomer to cause it to polymerize onto the yarns. E.g., 3 g of polyester yarn without **spin finish** was dried overnight at 120°, cooled, immersed in 70 mL PhMe, treated with an excess 0.22mM tetrakis(π -allyl)zirconium [12090-34-5] in PhMe, and exposed 2 h to 10 mL CH₂:CHCN. A coating of polyacrylonitrile [25014-41-9] had formed on the yarn. The coated yarn was sandwiched between 2 150- μ -diameter stainless steel wires and the assembly embedded in polyethylene [9002-88-4]. The adhesive shear strength of the bond was 4.8 MN/m² compared with 2.5 MN/m² for a similar but uncoated yarn.

IT 9002-88-4

RL: USES (Uses)

(coating of, on synthetic **fibers**; catalysts for in situ polymerization in)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4

H₂C=CH₂

IC C08F002-02

CC 39-8 (Textiles)

Section cross-reference(s): 42

ST coating process synthetic **fiber**; polyamide **fiber**
coating polyethylene; polyester **fiber** coating
polyolefin; polyethylene coating synthetic **fiber**;
polyisoprene coating polyester **fiber**; polyacrylonitrile
coating polyester **fiber**; catalyst polymer coating
fiber; zirconium catalyst coating **fiber**; chromium
catalyst coating **fiber**

IT Polymerization catalysts

(chromium and zirconium hydrocarbyls, for **olefins** in
coating on polyamide and polyester **fibers**)

IT Polyamide **fibers**, uses and miscellaneous

RL: USES (Uses)

(coating of, with polyethylene, catalysts for in situ polymerization in)

- IT Polyester fibers, uses and miscellaneous
RL: USES (Uses)
(coating of, with polyolefins, catalysts for in situ polymerization in)
- IT Coating process
(of polyamide and polyester fibers, with polyolefins, catalysts for in situ polymerization in)
- IT 12082-46-1
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymerization of acrylonitrile on polyester fiber)
- IT 12090-34-5 24356-01-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymerization of olefins on synthetic fibers)
- IT 9003-31-0 25014-41-9
RL: USES (Uses)
(coating of, on polyester fiber, catalysts for in situ polymerization in)
- IT 9002-88-4
RL: USES (Uses)
(coating of, on synthetic fibers, catalysts for in situ polymerization in)

L133 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1976:32549 Document No. 84:32549 Polyamide yarn. Marshall, Robert Moore; Pak, Sung Kun; Dardoufas, Kimon C. (Allied Chemical Corp., USA). U.S. US 3917893 19751104, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1974-438970 19740204.

- AB Polyamide yarns were given a finish making them suitable for use in braided hose, rope, or drive belts, by treating with an aqueous emulsion of an oxidized polyethylene [9002-88-4] wax having average mol. weight 1000-3000 and containing 3-9% O, heating to 100-175°, and treating with a composition containing an aqueous dispersion of colloidal silica [7631-86-9] and a polyethylene glycol ester of a C6-18 aliphatic acid. Nylon 6 yarn(1260 denier/204 fibers) was treated with a water-resistant spin finish prepared by mixing 4 parts water with a composition consisting of 48.2% white mineral oil, 38.4% phosphated oleyl alc. ethoxylated with .apprx.7 mols of ethylene oxide, 6.6% sulfonated succinic acid ester of oleyl alc., and 6.8% oxidized polyethylene wax. The yarn was overfinished with a composition containing 30 parts of polyethylene glycol monopelargonate [31621-91-7] and 70 parts of a commercially available colloidal aqueous silica dispersion containing 30 weight% solids to give a yarn with 0.3% silica and could be processed through a coning operation and was suitable for braiding and winding operations during manufacture of industrial

rope.

IC D02J; D01H

INCL 428395000

CC 39-10 (Textiles)

IT Polyamide fibers

RL: USES (Uses)

(finishing agents for yarns of, for improved coning and braiding)

IT Ethene, homopolymer, oxidized

RL: USES (Uses)

(wax, polyamide yarn finished by, for improved coning, and braiding)

L133 ANSWER 56 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

1970:56306 Document No. 72:56306 **Polyolefin** foams. Hosoda, Kirokuro; Nakae, Hiroyuki; Shiina, Naonori; Kadowaki, Yoshio (Furukawa Electric Co., Ltd.). Ger. Offen. DE 1930134 19691218, 43 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1969-1930134 19690613.

AB **Polyolefin** foams containing 70-99.5 weight% **polyolefin** and 0.5-30 weight % polybutadiene (I) are prepared by heating a mixture of the 2 polymers in the presence of a blowing agent. No crosslinking agent is needed. The composition can be foamed in a continuous process by extrusion, injection molding, or blow molding. Light materials with high **flexural** strength, particularly useful as building materials, are obtained by addition of I to the **polyolefins**. Thus, high-d. polyethylene (II) with a melt index of 0.5 and a d. of 0.96 g/cm³ was mixed 2 min with I containing ≥98% cis-1,4 bonds on a roll mill at 140-5°. To this moxt. was added 5 parts 1,1'-azobisformamide, mixing was continued 15 min, the mixture was hot pressed at 140-5° into a plate 7 mm thick, cut into a 40 + 40-mm piece, the piece was wrapped in Al foil, and foamed 10 min at 200° in a bath of Wood's alloy. The product had the following properties (parts I, parts II, d., thickness of the foamed plate in mm, compression elasticity for 25% compression in kg/cm² given): 0,100, 0.43, 8, -; 1, 99, 0.20, 19, -; 5, 95, 0.10, 30, -; 10, 90, 0.11, 31, 4.3; 20, 80, 0.11, -, 3.6; 30, 70, 0.12, -, 3.0; 40, 60, 0.15, -, 1.4; 70, 30, 0.45, -, -. Other olefins used were low-d. II, **isotactic polypropylene**, an ethylene-vinyl acetate copolymer, and chlorosulfonated polyethylene; an ethylene-acrylic acid copolymer, an ethylene-propylene copolymer, an ethylene-butene copolymer, chlorinated polyethylene or **polypropylene**, and poly(4-methyl-1-pentene) are also claimed. The foamable mixture may also contain Zn stearate, Al stearate, Ca silicate, CaCO₃, ZnO, talc, TiO₂, or diatomaceous earth as foam **nucleating agent** and a thickening agent such as glass fibers or carbon black..

IT 9002-88-4, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

H₂C=CH₂

RL: USES (Uses)
(chlorosulfonated, cellular, contg. butadiene polymers)
IC C08F
CC 36 (Plastics Manufacture and Processing)
ST **polyolefin** polybutadiene blend foams; polybutadiene
polyolefin blend foams; foams **polyolefins**
polybutadiene blend; polyethylene polybutadiene blend foams;
polypropylene polybutadiene blend foams
IT **Olefins**, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
IT 9003-17-2, uses and miscellaneous
RL: USES (Uses)
(cellular **olefin** polymers containing)
IT 9002-88-4, uses and miscellaneous 9003-07-0, uses and
miscellaneous 24937-78-8, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
IT 9002-88-4, uses and miscellaneous
RL: USES (Uses)
(chlorosulfonated, cellular, containing butadiene polymers)

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